

Sportsman Pilot™



Fall



1983



Sportsman Pilot



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ALL ARTICLES AND PICTURES BY JACK COX UNLESS OTHERWISE CREDITED.

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MAG CHECK

The path of one's life is marked with many milestones and forked with crossroads that regardless of our choices, lead us on to new adventures. As I write this, I'm very much aware that I'm at a milestone, a place I will not pass again. It's a modest place . . . merely my basement office. But it was here three years ago that Golda and I began work on the first issue of **Sportsman Pilot**, and it has been the peaceful refuge where I've scratched out every word of every subsequent issue for Golda to type. It has been here among the clutter of my books and treasured old aviation magazines that I've designed and pasted up every page of every issue of **Sportsman Pilot**. I've loved every minute of it and to paraphrase the old fishing cliché, I don't believe the hours spent here will count against those fate has allotted me in this life.

It is with a little twinge of melancholy, then, that I contemplate the fact that this is the last complete issue I will prepare in these familiar surroundings. Oh, I'll write a few of the articles for the Winter '84 issue here, but much of the work will be done somewhere else. Somewhere in Oshkosh, Wisconsin rather than here in Milwaukee.

We're moving, you see.

Golda and I are employed by EAA . . . EAA is moving to Oshkosh . . . so we are also moving there, and our personally owned business, **Sportsman Pilot** magazine, will go with us, of course.

We don't have a new address in Oshkosh yet, but you won't need it before the next issue, anyway. We will maintain our Post Office Box 485 at Hales Corners, WI 53130 for as long as it seems necessary and have our mail forwarded.

Yes, it's just a basement. Just the usual concrete blocks, a cement floor, exposed trusses . . . never finished off — too busy doin' **Sportsman Pilot** . . . but I'll miss it.

KALEIDOSCOPE

Jim Clevenger's Wedell-Williams replica.
Clevenger Photo



CHRISTMAS IDEA

Looking for an aviation related Christmas gift for your flying buddies? How about giving subscriptions to **SPORTSMAN PILOT**?

We have a gift subscription program that you may find convenient and attractive. It works like this: Mail us your check and the complete mailing address of as many of your friends as you like and we, in turn, will mail each of them a nice Christmas card with a personalized note inside telling them you have taken out a gift subscription to **SPORTSMAN PILOT** for them, beginning with the February 1984 issue. There's no extra cost for this service. Each U.S. gift subscription is the usual \$7.50 . . . and \$8.50 for persons living outside the U.S.

It's a gift that will keep on giving throughout the coming year . . . and is awfully easy on the ol' pocketbook if you have a long list of friends you want to remember this year.

WEDELL-WILLIAMS REPLICA

By the time you are reading this, Jim Clevenger of Marion, NC may have flown his full scale Wedell-Williams racer replica. Powered by a P&W R-985, it will be finished as the black and red Number 44. This is the first of three Wedell-Williams racers scheduled to emerge from Jim's shop at the Marion Airport, one of which will belong to well known aviation writer, Budd Davisson. Budd, who is an aeronautical engineer, did the design work — he had to since no drawings were available. The original designer, Jimmy Wedell, pretty well created his racers out of his head.

COMET REPLICA

Bill Turner of Miss Los Angeles and Gee Bee Z replica fame (and infamy!), has tired of waiting for a sponsor and has decided to fund the building of a full scale replica of the deHavilland D.H.88 Comet racer himself. He began work on the fuselage early in October at his hangar/shop at the famed FlaBob Airport near Riverside, CA. Bill will also start work on the Miles and Atwood Special replica

in November — for Leon Atwood, who backed the original racer in 1933.

TC-2 RE-ENGINEED

Designer Val Bernhardt and AeroMirage president, Ken Fickett, have decided to install a Continental O-200 in their prototype TC-2. The original engine was a Type 4 VW, but it has been so troublesome that it has set back the timetable for the development of the airframe. They are finding most of their customers want to use an O-200, anyway.

DITTO, POLLIWAGEN

The prototype Polliwagen is also undergoing a change from a VW type engine to an aircraft powerplant — a Lycoming O-235. A number of customer-built Polliwagens are being fitted with Lycomings, included at least one with an O-320 of 150 horsepower. According to designer Joe Alvarez, there was an almost instant resurgence of interest (and orders) in the Polliwagen the moment he announced the switch to an aircraft engine and made a pre-fabricated wing available.

FREE TOOL CATALOG

A new 72 page aircraft hand and power tool catalog has just been published and is yours for the asking. Write or phone: U. S. Industrial Tool and Supply Company 13541 Auburn, Detroit, MI 48223. Phone toll free: 1-800-521-7394.

RAIN PAINS

There's been much ado lately about the problems of some of the new composite canard aircraft when encountering rain. Well, they're not alone — the Space Shuttles are not allowed to fly in rain, period. Rain would quickly wear down the thermal tiles, causing lengthy and costly repairs. The Shuttles also share the composite airplane's alleged problems with lightning . . . but for another reason. The Shuttle's controls are totally digital fly-by-wire systems and could possibly be rendered

inoperative by a lightning strike. So, no flying in rain or within 5 miles laterally and 2 miles above any thunder bumpers, says NASA.

Obviously, it is going to be tough getting a Shuttle on the ground at the Cape in Florida in summer.

PREWELDED SONERAI FUSELAGES

Monnett Experimental Aircraft is now offering prewelded fuselages for the Sonerai II. The low wing version is now the choice of most builders, so the prewelded fuselages will have the low wing attach fittings — also fittings for **both** the taildragger and tri-gears so either can be used.

The company is also offering a 5-point harness for you acro types . . . or for anyone who wants to avoid submarining in the event of sudden stoppage. The 5th attach point is, of course, a crotch strap. It can be retrofitted to existing 4-point harnesses.

And if you are looking around for a good deal on the little TR-720 hand held transceiver, check with Monnett Experimental Aircraft. List price is \$795 but Monnett sells it for \$650.

QUIET RALLY

Most European nations impose severe noise limitations on aircraft, including ultralights. Especially ultralights! In order to sell its Rallies "over there", Rotec Engineering had to certify its sound suppression system in Austria and several other European nations. It consists of an engine intake noise filter perfected by Dr. Hans Lipich who heads the R&D effort for Bombardier-Rotax in Gunskirchen, Austria, an additional extended muffler and a slower turning 4-blade prop that reduces harmonic vibration. The system is certified to create only 58 decibels at 150 meters and 5500 rpm . . . and is now available in the U.S. for the first time.

Rotec has also announced a new 4 inch wide tire and fiberglass cockpit enclosure for both the single and 2-place Rallies. For more information, write or call: Rotec Engineering, Inc., P.O. Box 220, Duncanville, TX 75116, phone 214/298-2505.



Rotec Photo

ELOY HAPPENINGS

Rex Taylor, head honcho at HAPI Engines and Viking Aircraft (Dragonfly) has added still another VW powered homebuilt design to his growing stable. He has purchased the prototype and design rights to Bert Sisler's Cygnet. Of partial geodetic construction, the Cygnet is a 2-place, side-by-side, shoulder wing sportplane with excellent short field capability. Rex also has the U.S. rights to the little Australian Starlet, so now he has an aerobatic airplane, the Starlet; an all-composite, cross-country speedster, the Dragonfly; and a short field, general purpose sportplane . . . all VW powered, of course.

Rex has just added a large extension to his building on the Eloy, AZ municipal airport. It will house his HAPI engine assembly area and a large, very fancy showroom for his various products — will even have something like Astroturf on the floor!

And Rex isn't the only one building at Eloy. Just down the ramp, three new buildings have been erected by the city — one of which will house Bernie Warnke's propeller business and another by Task Research. Task, which is presently headquartered at the Santa Paula, CA airport, will move all its manufacturing activity to Eloy, including the composite components for the Rutan Solitaire and Long-EZ, the Dragonfly and others. Task's existing Santa Paula facilities will be used strictly for R&D.

Just across the street from the airport, the City of Eloy is developing an aviation oriented industrial park., with every lot having taxiway access. The first business to move in will be Fantasy Ultralights of Arizona, a full service ultralight outlet — with sales, service, parts, flight instruction, ground school, etc., as well as being a dealer for Pioneer Industries' Flight Star. Fantasy Ultralights of Arizona principals are essentially the same as those of Task Research, although it is a separate company. They believe that ultralights have pretty well run through the entrepreneurial, boom stage and that the time has come for some stability and solid business practices.

1984 CAFE 400 DATES

The 1984 running of the CAFE 400 efficiency race is set for the weekend of June 22 and 23rd. Race director Dr. Brien Seeley is extending invitations to all the new homebuilt designs — TC-2, Swearingen SX300, etc. — and hopes to have the finest field ever.

EDDIE ROSS STAGGERWING RESTORATION CENTER

During this year's Staggerwing Convention, held at the organization's permanent home and museum at Tullahoma, TN, groundbreaking ceremonies were held for the new Eddie Ross Staggerwing Restoration Center. Eddie Ross was the pilot of the first Staggerwing to be sold and operated by a private company.

HOMEBUILT DEFIANT

If you weren't at Oshkosh this year, you missed the prototype of the homebuilt version of Burt Rutan's Defiant. Built by composite whiz Fred Keller of Anchorage, Alaska, the push-pull twin differs from Burt's original Defiant in several areas — increased span, new canard with a different (Eppler) airfoil, re-



"Whatta ya mean, get out of the seat, you wanta fly — get your own ultralight, turkey!"

positioned winglets, etc. With a fuel capacity of 100 gallons, the airplane is capable of carrying a full load nearly 1600 miles. Cruise on two 150 hp Lycomings, fixed props and a fixed main gear is over 200 mph. Safety features abound — completely separate fuel and electrical systems for each engine and a "procedureless" engine-out capability. With centerline mounting of the engines, there is no asymmetrical thrust problem if you lose one. Plans will be available early in 1984 and materials kits will be available from Aircraft Spruce and Wicks. Ken Brock Manufacturing will produce the metal parts.

The big excitement around the Rutan Aircraft Factory these days is the round-the-world machine, the Voyager. Its airframe is nearing completion, but a lot of work remains on systems. Command post for the first attempt at a non-stop circumnavigation of planet Earth will be the National Air and Space Museum in Washington.

AEROCAR IN NATIONAL GEOGRAPHIC

Watch for an article on Molt Taylor's flying automobile, the Aerocar, in National Geographic. Certified by FAA over 20 years ago, the Aerocar was produced for a time on a limited basis. One of them was used regularly on the old Bob Cummings TV show . . . but Molt has never been able to get someone like Ford, GM or even Toyota to sign on the dotted line to produce it in quantity. He still has hopes, however, and believes more fervently than ever that the flying automobile is an idea whose time is overdue.

Molt is also experimenting with Kevlar bladed props. He and his associates have a test rig powered by a big Chrysler Corporation V-8 that is capable of running the prop in a full stalled condition. After destroying an early version, they now have a prop that can stand this worse-than-worst-case operating condition. When perfected, the props will be available to all.

RACE RUMOR

At Reno in September, we learned that several pilot/owners have approached the race promoters regarding the initiation of a new racing class. The racers would use the large flat engines from modern lightplanes and/or converted auto engines and would have no restrictions on landing gear, props, etc. A class, in other words, similar to the

Greve Trophy racers of the 1930's — technically, the most interesting air racers ever conceived. Reportedly, the Reno Air Race officials were receptive to the idea . . . and at least one racer (by John Parker) is already under construction. Hopefully, this class will come to pass — it would be the high tech division of racing, and the sport needs that.

CESSNA BACK TO WORK?

Cessna has announced that if the economic recovery continues, it will reopen its 152 and 172 production lines next March. If that happens, it will have been two years since either aircraft has been built — since March 20th of 1982.

Meanwhile, the sales situation is still bleak for the remainder of 1983. If present trends continue, 1983 will be the worst sales year for the lightplane industry since the end of World War II.

CHINESE Q2

Quickie Aircraft has had a Q2 built in China and sent test pilot Eric Shilling over to make the first flights. That was a situation with a potential for embarrassment. Shilling, you see, was a pilot for Claire Chennault's legendary Flying Tigers. Chennault, in turn, was employed by Generalissimo Chiang Kai-shek who was, of course, the arch enemy of the Communist regime still in power today. Eric had, in fact, once flown missions from the same airport at which he was to test fly the Q2. Time had apparently healed old wounds, however, and Eric was treated with utmost courtesy. The airplane flew well and he was soon on his way back to the U.S.

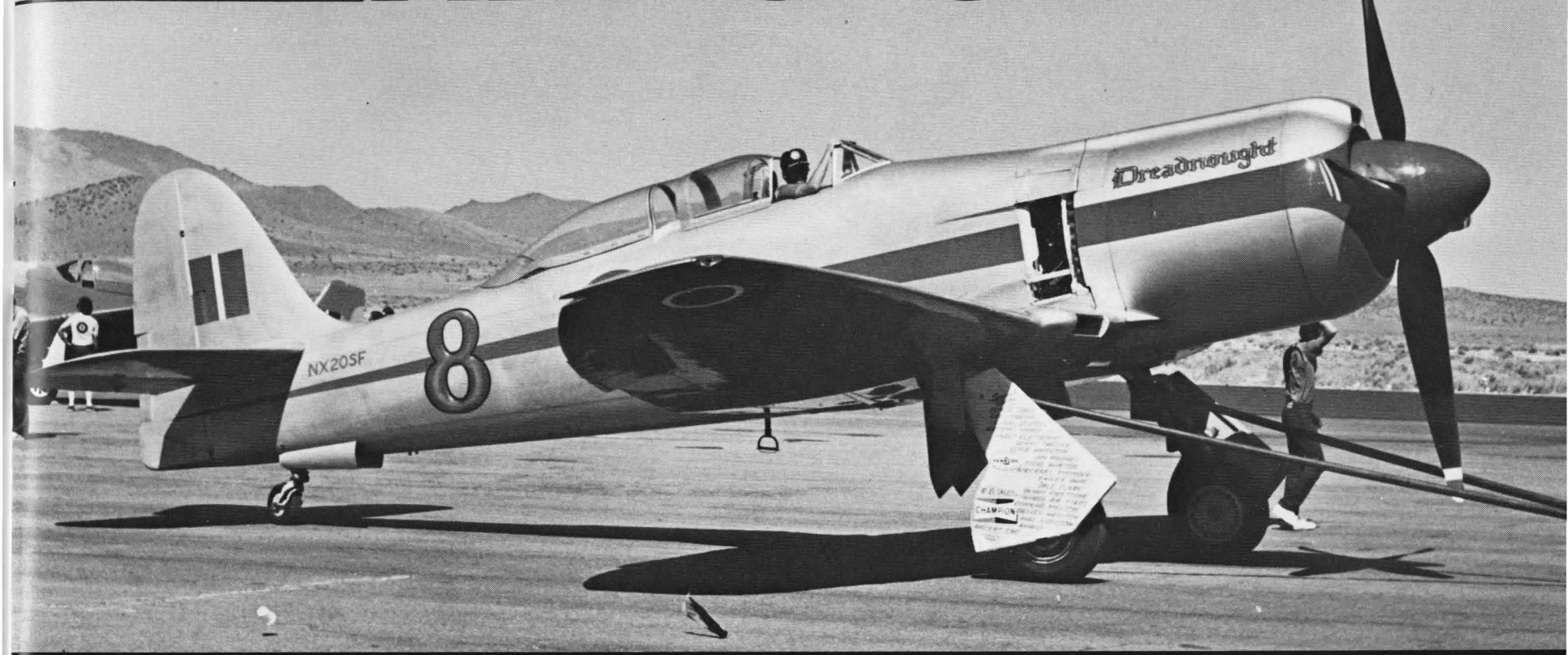
Quickie Aircraft had the airplane built in China to explore the possibility of having components and subassemblies built there in the future.

FIREWALL FORWARD

If you haven't purchased your copy of Tony Bingelis' new book "Firewall Forward", then the long line forms to the right. It sold completely out at Oshkosh in about 3 days. The long-awaited how-to "bible" covers just what the title implies: how to attach and plumb everything ahead of the firewall. The price is \$19.95 from Tony Bingelis, 8509 Greenflint Lane, Austin, TX 78759. His earlier book, Sportplane Builder, sells for \$17.95 — and if you buy 'em both, you pay only \$35.00.

That's almost as reasonable as Sportsman Pilot! ☺

RENO '83



The mighty Dreadnought.

Reno '83 was a classic confrontation . . . brute strength against agility . . . the broadaxe versus the stilleto.

The stilleto was last year's Unlimited champion, the hyper-Mustang, "Dago Red". Still basking in the glow of a 15/25 kilometer world speed record of 517.02 mph set on July 30, it was the odds-on pre-race favorite to cop the Unlimited Gold at Reno '83. Having bought out his partner, Bill Destefani, Frank Taylor of Chino, CA now owned Dago Red outright and had placed a rookie race pilot in the cockpit for Reno's 20th Anniversary pylon event. Rick Brickert of Tucson, a Western Airlines and Arizona Air National Guard pilot, would attempt to follow in Ron Hevle's very talented footsteps.

The broadaxe was a big ol' T.Mk. 20 Sea Fury, re-engined by the Sanders family, father Frank and sons, Brian and Dennis, with a monstrous Pratt and Whitney R-4360. This 28 cylinder, 4 row radial that once powered such behemoths as the B-50, B-36, C-124 Globemaster and Howard Hughes' controversial Spruce Goose, had a military power rating of 4300 horsepower . . . but who knew what a bunch of speed crazed racers would push it to! Appropriately named the "Dreadnought", the Sea Fury would be flown by Neil Anderson of Ft. Worth. Although a "rookie" at Reno, Anderson was hardly a novice. Formerly General Dynamics' Chief Test Pilot, he is now International Director of F-16 sales.

And those two were just the tip of the branding iron. Glowing white hot behind them was a pack of hungry challengers unwilling to concede an inch on the race course: Ron Hevle, last year's winner in Dago Red, was back in Bill Destefani's brand new Dago Red clone, "Strega"; Don Whittington had his

highly polished, highly tuned Mustang, "Precious Metal", smokin' again; Lyle Shelton, back after a year's layoff, had his highly modified Bearcat, the "Rare Bear", thundering around the race course, to the immense delight of the round engine fans; Clay Klabo's Mustang, "Fat Cat", was really screamin'; John Crocker, Dago Red's closest challenger last year, had his Mustang, "Sumthin' Else", primed to advance a position this year; and Steve Hinton was back in the R-4360 powered Corsair, "Budweiser Light", obviously faster after a year's debugging.

And then there was Jimmy Leeward in the Specter.

This summer, Jimmy bought the legendary "Jeannie" from Wiley Sanders and spent two frantic months getting it ready to race. First raced at Cleveland in the late 1940's as the "Gallop Ghost", the Mustang turned up again 20 years later at Reno as "Miss Candace". Bought by Sanders and renamed "Jeannie" it was Unlimited Champion in 1980 and again in '81. Lightened considerably, sporting a tiny bubble canopy and with its wings clipped, Jeannie became the "original" after which a number of new Mustangs have been cloned — most notably, Dago Red and Strega.

After a number of years as a Reno back marker in his fairly stock Mustang, "Cloud Dancer", Jimmy Leeward was determined to surge to the front this year. He renamed Jeannie "Specter" and switched its old race number 69 to 10 — using the Roman numeral X. A number of internal modifications were made, a hot new Merlin (and a back-up) was prepared and the wings were clipped even shorter than they had been. Jimmy arrived at Reno ready to play hardball — he intended to go after the qualifying record and, of

course, the Unlimited Championship.

Unfortunately, fate had other ideas. Leeward would become the hard luck story of Reno '83 . . . and, in his view, a victim of a timing fiasco that had the pit area abuzz all week. He blew an engine on Monday and after installing his back-up Merlin, tried again on Wednesday, the final day of qualifying. After a fast run, he was informed he had not been clocked because the timers had failed to observe him rocking his wings to indicate he was starting a qualifying lap. Out on the course for another try, Jimmy blew his second engine in the backstretch and, apparently, was out of the running for 1983. Unlimited rules allow a competitor with two entries to substitute one for the other, however, **IF** he can get 100% concurrence from the rest of the pilots. The next couple of days saw Leeward's crew working day and night to build up one good engine out of the remains of the two blown ones . . . and Jimmy zipping around on his moped getting signatures on his petition.

For whatever reason or reasons, one pilot refused to sign, so Specter will not appear in the official records of Reno '83. That's not to say it didn't race . . . just that it will not appear in the official stats. "Specter" is another word for ghost or an apparition and darned if it didn't live up to its name. It wasn't there, of course, but a couple of times it certainly **seemed** to be out there screamin' around the pylons in heat races. One time it actually **appeared** to win.

Just wait 'til next year, eh, Jimmy?

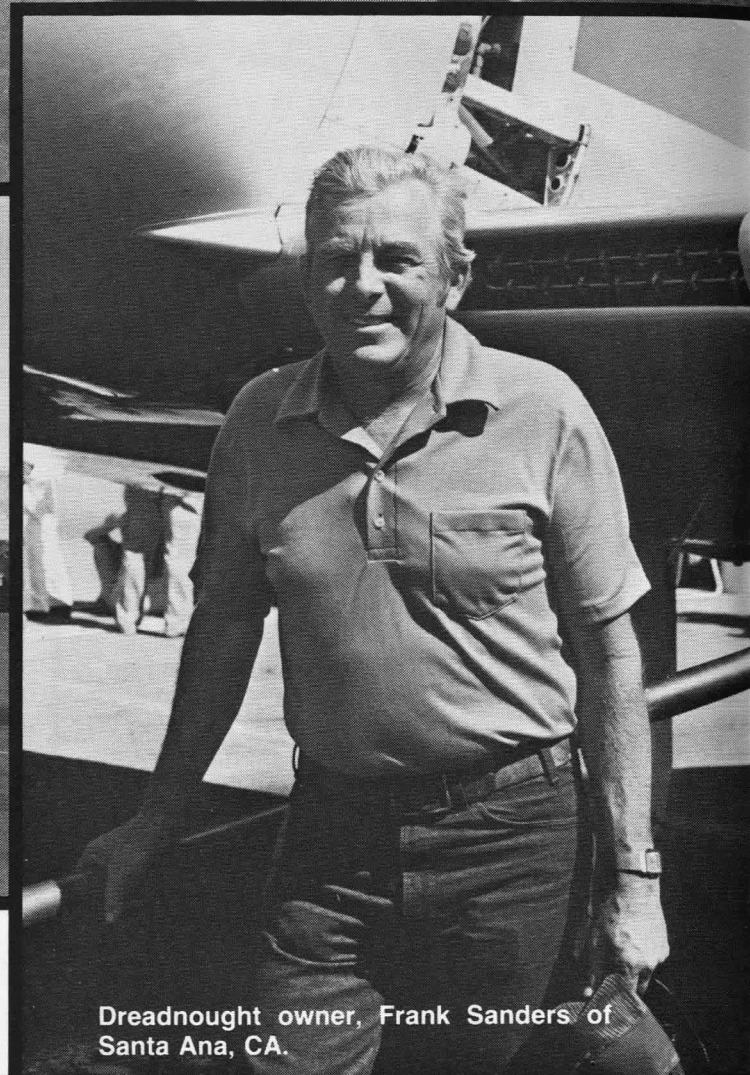
Swinging back to Wednesday, the tension was increasing by the hour. Rick Brickert had qualified Dago Red the day before at 439.219 mph and though by no means secure as king of the hill, could sit back and watch the others



Jimmy Leeward's tough-luck Specter.



A couple of living legends performed at Reno '83. Harold Neumann roared around the pylons in Jim Younkin's accurate replica of Mr. Mulligan. The R-1340 powered racer appeared surprisingly fast and Harold certainly still knows his way around the pylons!



Dreadnought owner, Frank Sanders of Santa Ana, CA.

sweat, knowing that there would be no tomorrow for them should they blow. The real threat appeared to be Ron Hevle in Strega. He cut a lap that his crew timed at a record 451 mph, but as had happened to Jimmy Leeward, the timers claimed they had not seen his "go" indication. After a stormy session with race officials, Ron went out again and was clocked at 435.977 mph. Others . . . in all five racing categories . . . were having similar problems and, predictably, tempers were flaring.

Then, suddenly, it all became academic. Neil Anderson was rumbling out onto the taxiway in the mighty Dreadnought . . . and all the controversy went on temporary hold as pilots, crews and spectators paused to see what the big bird was **really** capable of doing. They weren't kept in suspense for long

— Neil flashed through the starter's gate with the big P&W Wasp Major sounding like rolling thunder, and proceeded to circle the 8 pylon, 9.187 mile Unlimited race course at a speed of 446.392 mph. No one would do it faster.

Instantly, the entire complexion of Reno '83 had changed. No longer was it a matter of which Mustang would emerge from qualifying as the favorite to win the Gold. With the jerk of a timer's thumb, the emphasis shifted from who was fleetest of the fleet to a question of durability. To achieve their race speeds, the Mustangs have been progressively boosted over the years until, today, they run perilously close to their breaking point — at well over 100 inches of manifold pressure. Every knowledgeable person on the airport knew, however, that the Dreadnought was pulling less than 70 inches . . .

and that if the Sanders had found a way to keep the oil cool, could very likely fly all day at that power.

Perhaps the most succinct commentary came from a bystander, undoubtedly a Mustang crew member, who was heard to snarl, "A (bleep, bleep) 2-place trainer!"

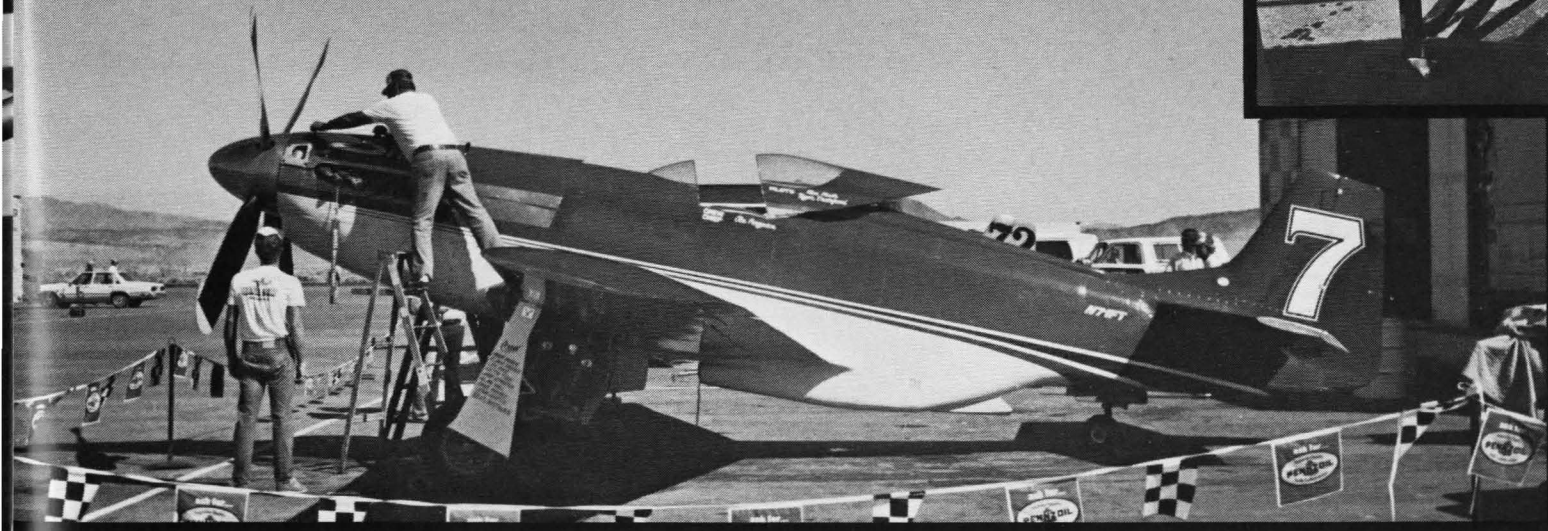
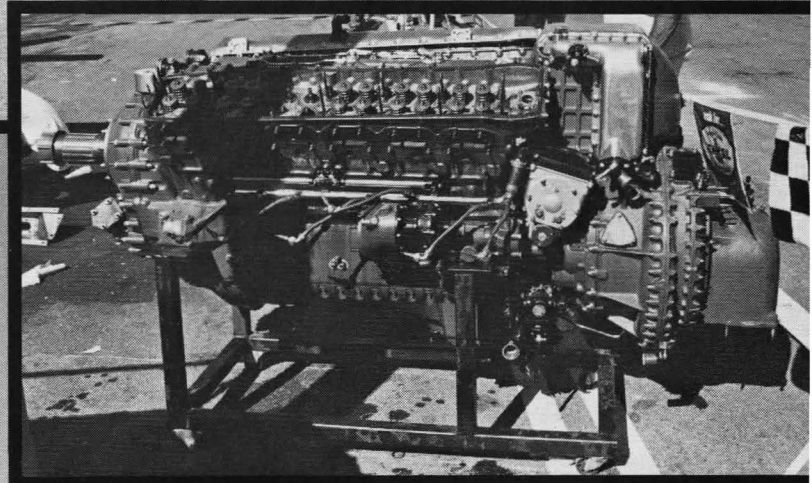
By the end of the day, one of if not **the** biggest Unlimited fields ever assembled was qualified and ready for the start of racing on Thursday. There were 28 of them and they were divided into four groups of seven, initially, according to their qualifying speeds. They would run heat races in these groupings on Thursday, Friday and Saturday, with winners eligible for "alternate" status in the next fastest group, until Sunday when the Gold or championship races would be held. Eight racers qualified over 400 miles per hour, in

Last year's Reno winner, Dago Red, being towed out for fueling. It is now owned by Frank Taylor.



One of two Merlins blown by Jimmy Lee-ward during the time trials.

"Strega", Bill Destefani's new Dago Red clone.



the following order:

- Neil Anderson — 446.392
- Rick Brickert — 439.219
- Ron Hevle — 435.977
- Don Whittington — 434.888
- Lyle Shelton — 432.047
- Clay Klabo — 419.230
- John Crocker — 413.051
- Steve Hinton — 408.311

The grouping by seven knocked Steve Hinton down into the second (Silver) tier and although he ended up winning the Silver race and was the alternate for the Gold final, was bumped and did not get to test his big mean Corsair against the hot dogs.

Each group, Bronze, Silver and Gold, raced three times and the slowest group, the Medallion, raced twice. Medallion, which is made up largely of stock airframes, was all

Chuck Hall in John Sandburg's P-51 "Topsy Miss". He won on Thursday at 364.584 mph and on Friday at 368.956 . . . but had the misfortune of dropping an intake valve just after crossing the finish line and had to belly the Mustang into the desert a few miles away from Stead Airport. Fortunately, with no injuries and minimal airframe damage.

The Bronze final was won by Earl Ketchen of Denver in the Mustang "Habu", and the Silver feature was a walk-away for Steve Hinton in Budweiser Light, interestingly at an 8 lap average speed of 417.097 mph — 8.786 mph faster than his one lap qualifying time.

The first showdown of the hot dogs took place on Friday and although Neil Anderson pushed the Dreadnought ahead at the start, he was soon passed by Rick Brickert in Dago

Red, who went on to win at a speed of 420.226 mph — a couple of seconds ahead of Anderson. The heat races are always "cat and mouse" affairs with the pilots feeling out their closest competitors to see what they've really got . . . or how much engine they're willing to use up before the run for the money on Sunday. It was obvious on this day that neither Brickert or Anderson was willing to show much of his hand.

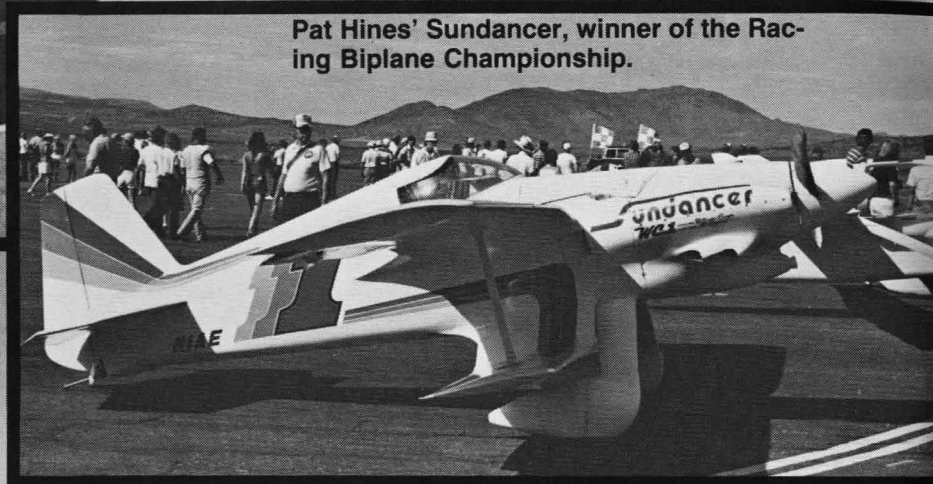
On Saturday, however, Neil turned up the wick considerably, winning with a speed of 435.584 mph . . . and pushing Brickert to 433.889, which was within 5.33 mph of his qualifying speed. Afterwards, a member of the Dreadnought crew was heard to say, "I just hope we went fast enough to pull the pin in their grenade!"

On both Friday and Saturday, Lyle Shelton

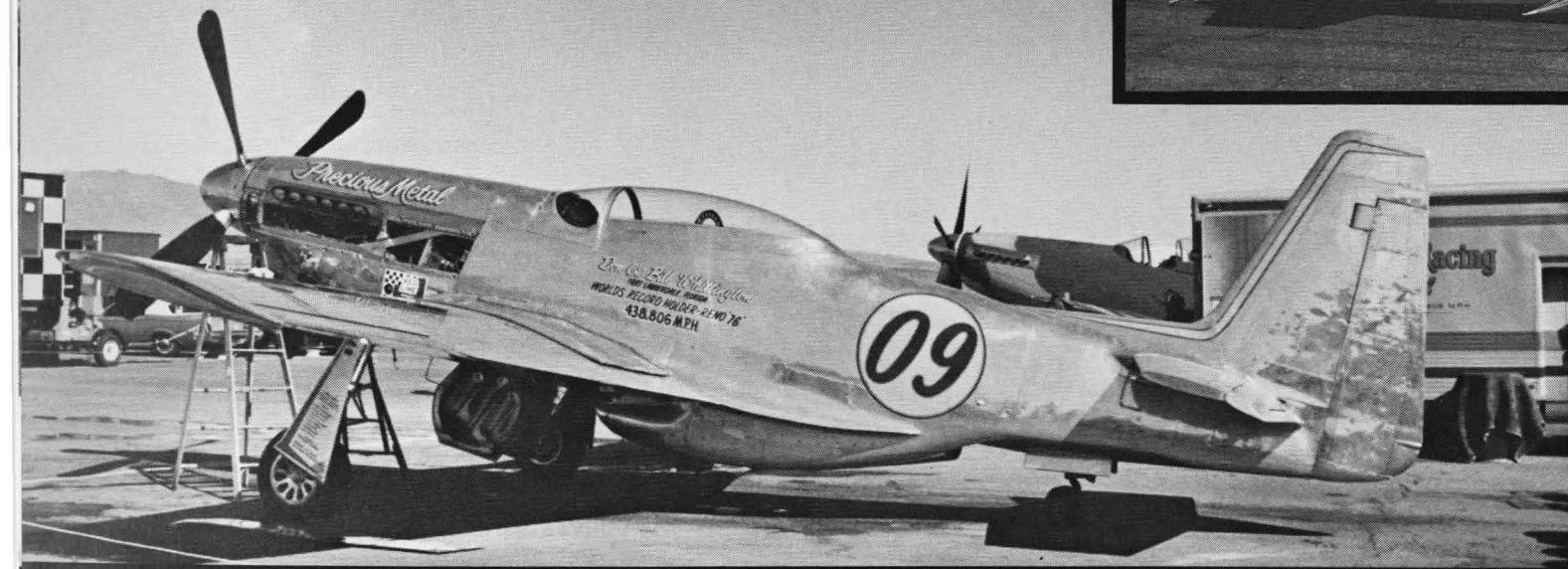
"Rare Bear", Lyle Shelton's highly modified Bearcat.



Pat Hines' Sundancer, winner of the Racing Biplane Championship.



Don Whittington's "Precious Metal".



had been a close third in Rare Bear, and everyone was wondering how much, if any, he was holding back for Sunday. The Bearcat lovers were fervently hoping he was sandbagging in the heats and would be ready to spring a big surprise on Anderson and Brickert on Sunday.

Finally, the big moment arrived — the showdown everyone had been waiting for. As Bob Hoover led the Unlimited Gold group out to line up for the flying start, everyone in the pits moved out to the FAA deadline so they could see the entire race course. A wingtip-to-wingtip duel was expected between Dreadnought and Dago Red and no one wanted to miss a second of it.

As the racers thundered back into view, headed down the front stretch of the race course, all eyes were on Bob Hoover's bright

yellow Mustang pace plane. Suddenly, he shot straight up and from all over the ramp you could hear his familiar Tennessee twang on spectator's portable receivers — "Gentlemen, you have a race!"

As the field shot past the grandstands, Dreadnought seemed to have a slight lead, but by the time they were halfway down the front straight, Dago Red had powered its way to the front. The entire race course is used as a scatter pylon in the Unlimited races, the first lap not beginning until the airplanes have gone all the way around and flash by the start/finish line. By the time the pack arrived at that point, Brickert had a commanding lead.

And just as the start/finish came up, the excitement began. Ron Hevle zoomed up, streaming oil from Strega, before ever getting

the green flag. Bob Hoover was immediately into his rescue mode and was successful in shepherding Hevle around to a successful landing, despite Strega's opaque canopy and a dying Merlin that came to a complete stop on rollout.

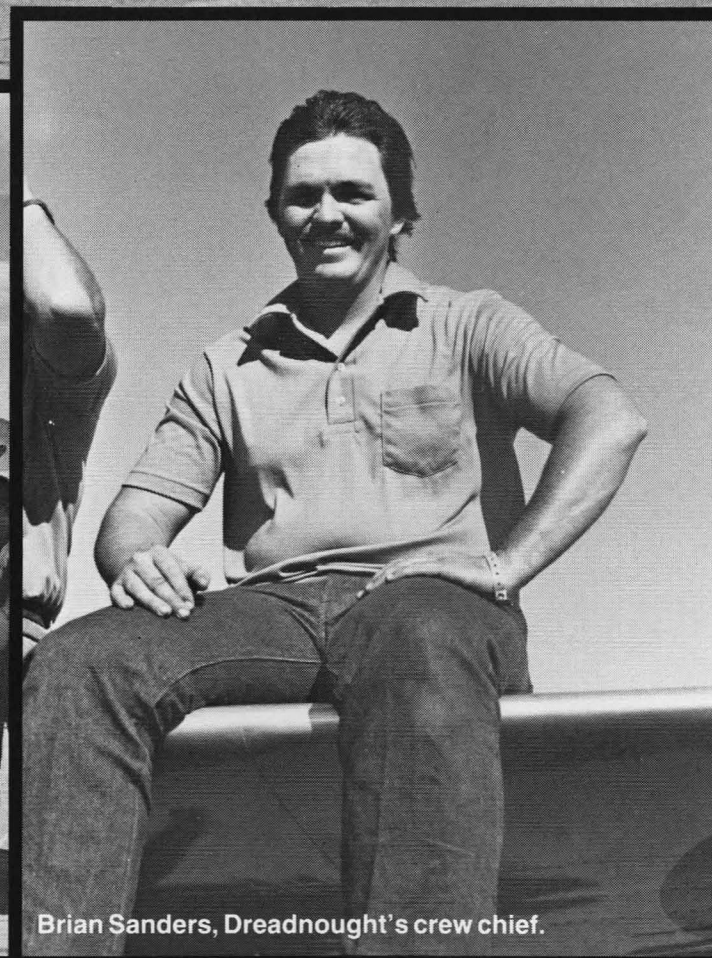
Meanwhile, Brickert had pushed Dago Red even further in front of the field . . . and just kept right on truckin' for the next five laps. What a letdown! The battle of the century had quickly become a parade, with the 6 remaining racers stretching out in a not very exciting single file. Dago Red was wailing in High C and seemed headed for a certain repeat of last year's victory.

Then the grenade exploded.

Coming down the backstretch on lap five, Dago Red suddenly shot skyward . . . and Bob Hoover had another rescue on his



The Dreadnought crew fills the spray bar tanks with ice water just prior to the second heat race. The water is sprayed over the oil coolers during the race. That's Dennis Sanders lifting the right side of the can.



Brian Sanders, Dreadnought's crew chief.

hands. Brickert later said that he was sailing along with everything in the green when, wham! something like a sledge hammer blow reverberated throughout the Mustang's airframe, followed by a tremendous vibration. He instinctively pulled up and out of the race and came around for a landing. It was still shaking, but, surprisingly, Dago Red's engine kept running so that the landing was relatively uneventful. No oil had spilled, so Rick did not have a visibility problem. On the ramp, he and his crew learned the heartbreaking truth — the spinner backing plate had failed. The screaming Merlin was still healthy and might well have gone all the way.

Back out on the pylons, Neil Anderson, now with the lead, must have been chuckling over that old racing truism, "It's not over 'til it's over." The Sanders strategy had worked

— push the Mustangs until they break, then motor on over to the paywindow.

Actually, Neil wasn't home free yet. Lyle Shelton was still within striking distance and on lap seven began to visibly close the gap between his Bearcat and the Sea Fury. Then, he, too, was standing on his tail and wondering where Bob Hoover was. Lyle, in fact, had the hairiest landing of the day, touching down just off the runway. He masterfully reined the Rare Bear in, however, and saved it to race another day.

By this time it was all over. Ironically, most of the crowd missed seeing the checkered flag waved at Neil Anderson — they were watching Shelton wrestling Rare Bear down at that instant. Behind Dreadnought . . . wa-a-ay behind came Don Whittington in a sick running Precious Metal, followed by an

even worse sounding John Crocker and, finally, Bill Destefani, who was doing a highly credible job in his stock Mustang, "Mangia Pane". He had made the Gold final via the "bumping" system by virtue of a really fast Silver heat a couple of days before. His was a very credible fourth place, and one can't help speculating that just maybe he'll put himself in Strega next year.

But, back to the front — and hail to the victor! The deed had been done. A brand new racer with a rookie pilot, a rookie crew chief and, for the better part, a rookie crew had won the top prize in Unlimited air racing. They had done it in a two-place trainer with a transport engine turning a dive bomber (Skyraider) prop. And they had done it against a field of the hottest Mustangs ever assembled for an air race. The cir-

R-4360 powered Corsair, "Budweiser Light", flown by Steve Hinton.



Dick Sykes, 1983 T-6 Champion

Dick Sykes' "Mystery Ship", 1983 T-6 Champion.



cumstances had been so seemingly improbable, the ironies so delicious that victory could not have been sweeter for the Sanders crew. Made up largely of the young friends of Dennis and Brian Sanders, the crew went absolutely bananas as Anderson roared by the finish line. They all rushed to the victory circle out in front of the grandstands to share the glory with their pilot and rode back to the pits on the Sea Fury's wings. The next hour or so was one of the wildest melées ever witnessed at Reno. They screamed, they yelled, they doused each other with champagne until it ran out, then switched to beer — which didn't run out until everyone of them was soaked to the skin. Their conquering hero, Neil Anderson, could have started a brewery with the suds he was showered with — diluted with a big bucket of water after the

beer finally ran out. He didn't seem to mind at all.

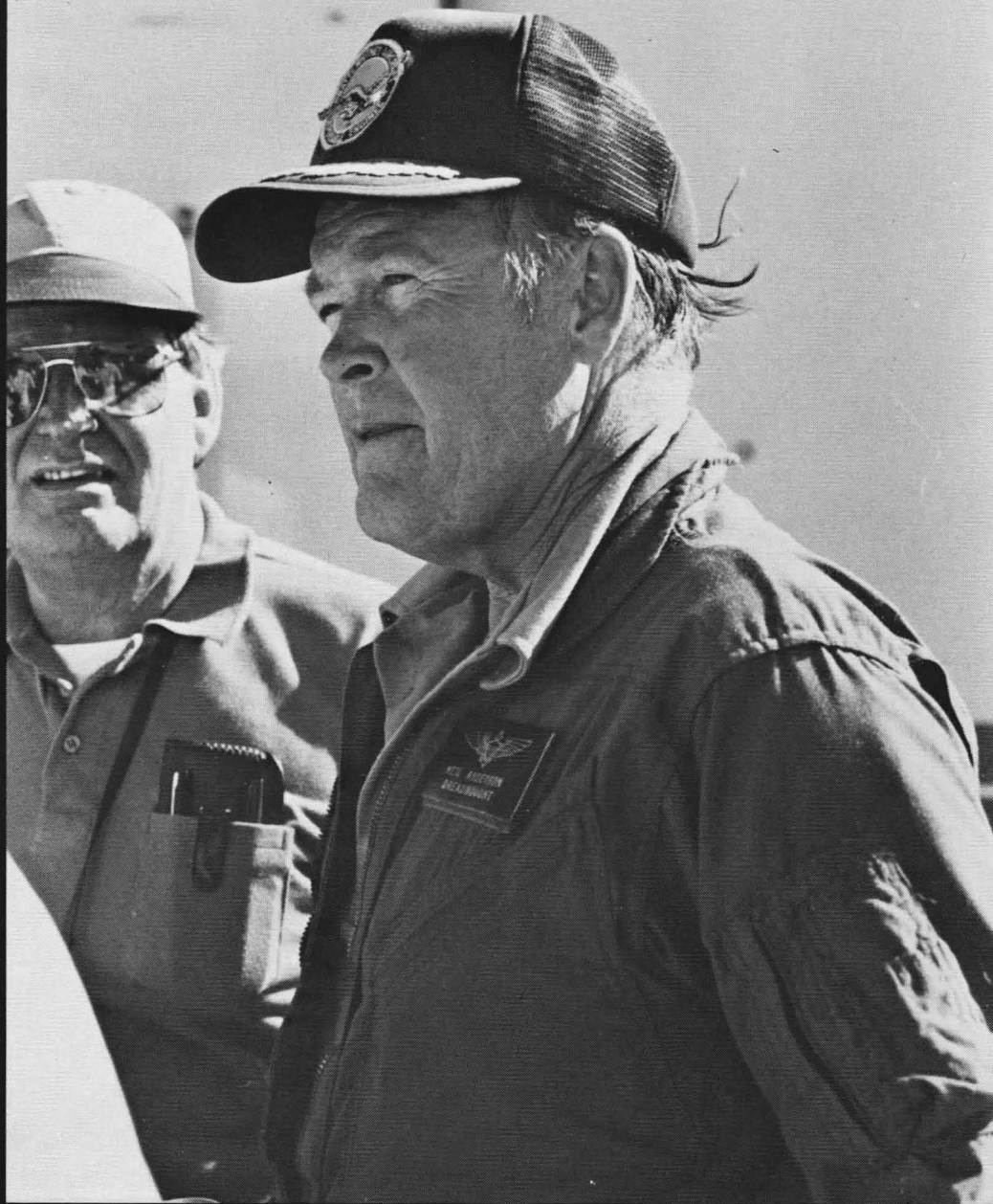
Eventually, the mayhem began to subside somewhat and Neil was able to relate a little of his adventure to the reporters and well-wishers that had sought him out. It had been very windy on Sunday and Neil said the race had been one of the roughest rides of his long aviation career. His head had repeatedly banged the canopy and, worst of all, his indicated airspeed was down by nearly 20 knots from what it had been earlier in the week when the air was smooth. This had concerned him, he admitted, because although everyone else was flying in the same turbulence, he knew the big Sea Fury was suffering a greater drag penalty than the sleek little clipwing Mustangs, and he didn't know if his big Pratt and Whitney, strong as

it was, could make up the difference. He and Frank Sanders had decided beforehand to run no more than 70 inches of manifold pressure and 2900 rpm, hoping that would be enough to run the Mustangs into the ground. With the turbulence and Dago Red running so strongly, he admitted to "momentarily" seeing 72 inches and 3000 rpm, but in the end he was able to throttle back and rumble home at a "leisurely" 425.242 mph — well ahead of Whittington at 414.645.

Standing there throughout it all, with a smile about a yard wide was Frank Sanders. There was no prouder man in the state of Nevada that day. He was proud of his good friend, Neil Anderson; he was proud of his beloved Sea Fury — he's Mr. Sea Fury to warbird enthusiasts — and he was proud of his pit crew which had worked so hard all

NEIL ANDERSON

Profile of a Winner



Neil Anderson may have been a "rookie" at Reno this year, but that's about the only place in aviation he would get that label. Certainly not in the military establishment where he spent 6 years on active duty as a Marine fighter pilot and 22 years in the reserves . . . certainly not in the aerospace industry where he is recognized as one of the world's premier test pilots . . . and most certainly not at Farnborough or the Paris Air Show where he has left the crowds screaming and his fellow test pilots speechless with his incredible performances in the F-16.

He has flown more than 180 different aircraft types, including the MIG 19 and 21.

Neil, who is 49, grew up in Omaha, Nebraska and began flying at age 19 as a Naval Aviation Cadet. In those days (the early 50's), the Honor Cadet got his pick of assignments, so after Neil topped his class, he chose the Marines. After his active military career, he went to work for General Dynamics as an experimental test pilot flying the F-111. At the conclusion of that program, he spent a year on simulators in preparation for the then new F-16. He has been flying that aircraft for the past 9 years, first as Chief Test Pilot, then Director of Flight Test and, currently, as International Director. In that capacity, he is responsible for arranging the flight evaluation programs for foreign governments who want to purchase F-16s. He demonstrates the airplane to prospective customers and is the company's air show pilot.

Still, when he came to Reno this year, he **was** a rookie race pilot.

Neil got his ride in the Sea Fury as a result of his friendship with its owner, Frank San-

ders. Frank manufactures smoke systems and supplies the units Neil uses on the F-16. Of course, Frank was well aware of Neil's prowess as a stick and rudder man, so it was only natural that when he needed a top-notch race pilot, he knew just where to turn.

Another factor in his favor was the fact that Neil had experience in the Sea Fury . . . and, in fact, considers it his favorite airplane.

"It's just an airplane that a pilot instantly identifies with — purely because of handling," he says. "It's the most gorgeous handling airplane you've ever seen in your life. I fly military airplanes for a living, and we would all **wish** we could achieve these kinds of handling qualities."

Neil flew the R-4360 powered Dreadnought for the first time about 2 weeks before Reno (Frank Sanders had made the initial test flight) and had about 25 to 30 flights under his belt prior to race day.

The Sanders have a standard T. Mk. 20 Sea Fury (the 2-place version) and he and Dennis Sanders put it to good use prior to the opening of qualifying trials. They went out on the race course and flew lap after lap, getting their bearings, visually, and learning the fastest way around for this particular airplane.

"We've got a big, fast airplane," Neil told me a day or so before the Unlimited final, "and it turns very, very well — probably better than anything among the Unlimiteds. But it does slow down in the turns. It's not a 'sprint' airplane like the Mustangs, so we have to fly our own kind of race to compete with them."

"Dennis and I have worked out our best altitudes, G levels, etc., and we've got

enough landmarks memorized that we could fly the course even if the pylons weren't there."

(Dennis, incidentally, was the alternate pilot for the Dreadnought at Reno.)

Neil Anderson is a big man, physically, and is affable and outgoing to everyone he meets. Watching him bound around the pit area, pumping hands and laughing and talking with everyone in sight, it was obvious he was having the time of his life. He confirmed this with several observations on the Reno scene.

"The challenge of pushing back technological barriers is what I like about my work at General Dynamics, and I'm finding a very similar situation here. These people are doing things that have never been done before — installing new engines in airframes, pushing them to unheard of levels. It's all trailblazing stuff — really fascinating.

"I also like the people, the association among people and the affinity they have for each other, the fellowship — all that sort of thing. It's good, it's fun. They're all different, they have unique interests and unique qualifications and unique talents, but they're all interested in airplanes.

"You don't see people out here eye watering, knee walking, commode hugging smashed, you know. You see the right kind of people, the kind you like to be associated with. They **do** race, they **do** go for performance, they're trying to get the maximum out of their equipment. I kinda like that . . . that's quite akin to a fighter operation. That's what you try to do there, you know."



1983 Formula 1/IMF National Champion, Chuck Wentworth checks out the engine in his all-conquering Flexi Flyer.



week to improve the oil cooling and to have the airplane always ready to go when its heats came up. Most of all, however, he was proud of his sons, Brian and Dennis. After all, the Dreadnought had been their idea. Frank and his fellow Sea Fury lovers had always talked about putting a 4360 in a Sea Fury to blow off the Mustangs, but it was Brian and Dennis who set the wheels in motion. They used the proceeds from the sale of an AT-11 they had restored and later sold to buy the engines and props and they had done the lion's share of the actual work converting the T.Mk. 20 to a racer. Frank owned the airplane and directed as well as helped on the project, but, in his mind, it was Brian and Dennis' show . . . and out there on that beer and champagne soaked ramp that Sunday evening in September, his cup was truly running over.

The "Other" Reno

The Unlimiteds are the big show at Reno, but just as important to the participants and their followers are the Formula 1/IMF racers, the Sport and Racing Biplanes and the T-6's. They can't compete with the high rollers in the Unlimited class who pop thirty grand engines with about the same abandon they would a wad of bubble gum, but, certainly, the competition is no less fierce and the enthusiasm at no less a fever pitch.

The Formula 1/IMF scene was totally dominated this year by Chuck Wentworth of Hesperia, CA in his tiny "Flexi Flyer". He was top qualifier at 239.231 mph, won his preliminary heat by nearly 10 mph over Ray Cote, and won the Gold by 15 over Englishman

Stephen Thompson. Ralph Wise of Augoura, CA, who had problems with his engine earlier in the week, finally got going and won the Silver in a romp in his beautifully streamlined "Sorensen Special". Robert Drew of Saratoga, CA won the Bronze race in his "Alouette".

Perennial Sport Biplane winner, Don Fairbanks of Cincinnati, had a little more of a challenge in his category. He pushed his venerable Knight Twister to the top qualifying spot with a speed of 185.579 mph, but lost to challenger Mic Williams' Mong in the preliminary heat. Don came snarling back in the Gold race, however, and nipped Williams by a couple of seconds.

The Racing Biplanes once again provided more than their share of excitement. There were only 4 of them at Reno this year, but in the end there were just 3. Dan Mortensen got a wing . . . or maybe it was a canard . . . into the ground rounding the ironically named scatter pylon at the start of the first heat and proceeded to scatter the Amsoil/Rutan racer all over the desert. Miraculously, when the dust cleared, he was seen stepping out of the cockpit, virtually unhurt. The cockpit area was about all that remained intact, but it saved Dan from all but a dislocated shoulder and assorted bumps and bruises. He walked unassisted into the field aid station — and later vowed to be back at Reno next year with a new racer.

Otherwise, the Racing Biplane events were a continuation of the Pat Hines/"Sundancer" show. He blew off Don Beck's "Sorceress" and Al Kramer's "Cobra" with his usual aplomb.

And, finally, there were the T-6's — those

wild and crazy guys who seem to have more fun that anyone at Reno. The top qualifier was Ralph Rina of Long Beach, CA in "Miss Everything" at 225.564 mph, a new record. Second was Dick Sykes of Toluca Lake, CA, who also eclipsed the old mark with a speed of 221.402 mph. Taking a leaf from the legend of the Travel Air Mystery Ship, Sykes, a 69 year old lawyer, and his crew carried out a high spirited, tongue-in-cheek war of nerves against their competition by naming their T-6 the "Mystery Ship" and even had it pictured in the official program draped over with a canvas cover . . . a la 1929.

There were two T-6 heats. Sykes won the first and Rina won the second, which set up a classic shootout for the gold. Rina grabbed the early lead, but "von Heinz" Sykes soon passed him and sped on to victory and a new course record of 225.943 mph.

Reno '83 was a great show. The weather was good, despite the wind on the final day, and the competition was heated. No one was seriously injured and all but one racer will likely be back next year.

The Unlimited field was the best ever and should be something to behold next September. One ominous note for the owners of the hot dogs did turn up late in the week, however. John Sandburg, Bruce Boland, Pete Law and a few others were seen strolling around the pits wearing shirts embroidered on the back with a name calculated to strike fear into the hearts of even the staunchest Mustang, Bearcat, Corsair and Sea Fury lovers.

The name was . . . "Tsunami"!



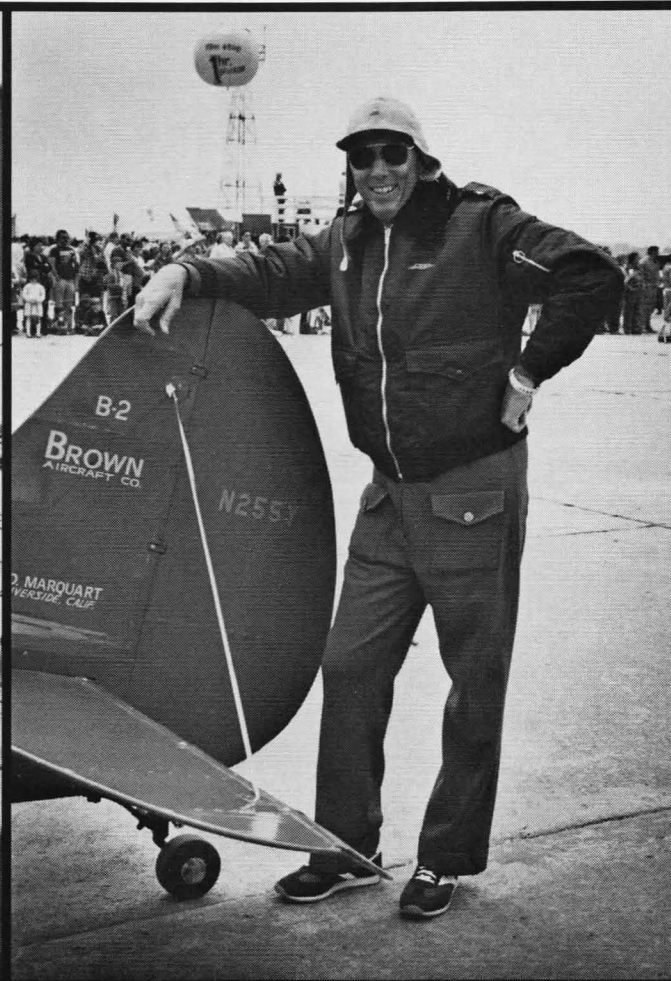
SPORTSMAN PILOTS *At Random*



Ray Cote, 9 time National Formula 1/IMF Champion.



Jim Nissen, last of the Jenny acro pilots.



Bill Turner of Riverside, CA, replica racer builder and pilot extraordinaire.



Jim Butler of Norwalk, OH and his miniature engines at the MERFI Fly-In in September.



Lane Leonard of Covina, CA and one of his treasures — a patent model for the 1923 Hele-Shaw and Beacham hydraulically operated, governed, variable pitch propeller.



Deke Slayton, astronaut . . . and now a Formula 1/IMF racer.



There are airplane fanatics . . . and then there are Swift owners!

Consider this: In February of 1980, Charlie Nelson, president and founder of the Swift Association, picked up a jangling telephone and promptly got the shock of his life. Steve Dyer, president of Univair, holder of the Swift type certificate, all the production tooling and the sole source of new Swift parts, was the caller and he had bad news, indeed. A middle eastern government with bucks to burn wanted to buy everything that was left of the Swift, transport it to their country and use it up in a school to teach unskilled workers how to build metal airplanes.

Charlie knew that deal, if consummated, would be the beginning of the end for the Swift . . . but he also knew a thing or two about the members of the Swift Association. Within a month they had rallied 'round the flag, had signed a contract to purchase all the Swift goodies, had made a substantial down payment . . . and on March 31, 1982 paid the balance in full! The group now has its own non-profit foundation, dedicated to the preservation of the Swift, which owns the type certificate, tooling and parts and dispenses them from its own permanent facilities on the McMinn County Airport at Athens, Tennessee. Naturally, that is Charlie Nelson's home airport.

It's just this sort of dynamic, can-do spirit that has always typified the Swift owner, and Charlie Nelson was astute enough to harness it in 1968 by forming the Swift Association.

Through the medium of its monthly newsletter, annual National Swift Fly-In and numerous regional events, Swift owners have turned an airplane with a shady reputation into a treasured collector's item that appreciates in value every year. Within the Association, a thriving after-market industry has blossomed, producing all manner of STCed engine and prop retrofits and airframe modifications galore. Most important of all, however, is the camaraderie, the esprit de corps, if you will, the group literally exudes. There's simply no prouder pilot than the man or woman who owns a Swift.

Typical of the breed is Dick McNeil of North Wilkesboro, North Carolina. He has owned his Swift for 15 years, has upgraded it through three different engine retrofits and lavishes untold hours of tender loving care on its mirror finish airframe.

Dick's airplane is N2457B, which instantly perks up the ears of a Swift aficionado because he recognizes that's just three N numbers from N2460B, the very last Swift built in 1951. Any Swifter worth his salt won't stop with just that kernel of wisdom, of course. He'll just **have** to tell you that 60B still exists — owned by a fellow named Jack Pry of Friendsworth, Texas . . . and that not only does the **last** Swift survive, but, would you believe, the **first** one, N33336, Serial Number 2, is also still around — owned by Lou Leftwich of Orlando, FL. And likely as not, before you can get a word in edgewise, you will also learn (whether you really care

or not) that a grand total of 1521 Swifts, Models GC-1A and GC-1B were built by Globe and Temco and that the latest FAA register shows 681 of them around today. Furthermore, that number is actually **growing**. A year or so ago the FAA only counted 669 Swifts among the living. They're rolling out of restoration shops all over, it seems.

You wouldn't get that kind of statistical avalanche from Dick McNeil — he's a modest, unassuming Southern gentleman in the best sense of that term — but he is no less proud of his Swift for his reticence. The Coca-Cola bottler in his area, Dick learned to fly in a Champ and got his Private ticket in 1966 in a Mooney Super 21. Shortly thereafter, he bought 2457B from Roger Willis of Evansville, Indiana. It had a 145 horsepower Continental in it at that time and he flew it that way until 1974 when he installed a 150 horsepower Lycoming O-320 with a constant speed prop. The very next year, however, he put the Swift in the shop again and this time it emerged with a 210 horsepower Continental in the nose. The 150 Lycoming had performed well, but it required the use of a fiberglass cowl and its shape and the fact that it could not be matched in color with his highly polished airframe just plain offended Dick's aesthetic sensibilities. With the 210 he was able to go back to the original Swift metal cowl . . . and to his can of Met-All.

The Swift has had more approved engine installations over the years than Carter has little liver pills. The CG-1A's were all built with

85 horsepower Continentals and all the CG-1B's rolled out the factory door with 125 horse Continentals. As the years went by and the original engines wore out, it was a common practice to upgrade to the 145 horse Continental. Then STC's began coming on line to permit use of the 4-cylinder Lycomings of 150, 160, 180 and 200 horsepower . . . and still later, the 210 Continental and 220 horsepower Franklin. Since Dick had gone through three of the most popular engines found in Swifts, I was curious as to what sort of performance gains he had achieved. He's a straight shooter, so I knew I would get some real world numbers.

Equipped with the 145 horsepower Continental, Dick got an **indicated** 110 mph at his normal cruise power setting. When he installed the 150 Lycoming, the indicated cruise was pretty much the same, but with a constant speed prop, the take-off run was shorter and climb out was considerably improved. Further, the fuel economy was better. The Continental IO-360C is a hoss of a different color. Acceleration on take-off is exhilaration personified, and the initial rate of climb is around 1500 fpm. It keeps right on going up, too, holding 700/750 fpm to 10,000 feet.

In the cruise configuration, 57B will now indicate about 138 mph at 8,000 to 9,000 feet. Dick says he normally flight plans for 140 knots and usually makes it good.

All the modifications to 57B are not located ahead of the firewall. It has a custom instrument panel with all the electronic bells and whistles needed for IFR flying. "I do fly it some in 'soft' IFR," Dick says. Also, Cleveland brakes have replaced the original Goodyears and, recently, a set of Chuck Lisher's P-51 style landing gear doors were added. These doors do wonders for the appearance of a Swift — really make it look like a little fighter plane.

The most obvious thing Dick does for his Swift is keeping it polished to the Nth degree. Actually, it looks better now than it ever has. Like so many others, he has switched to Blue Magic aluminum polish and the results are truly spectacular. Dick has won a ton of trophies over the years with 57B and its super shine has been one of the reasons. You can't hide defects when you've got a polished metal airplane.

I asked Dick what he knew about the his-

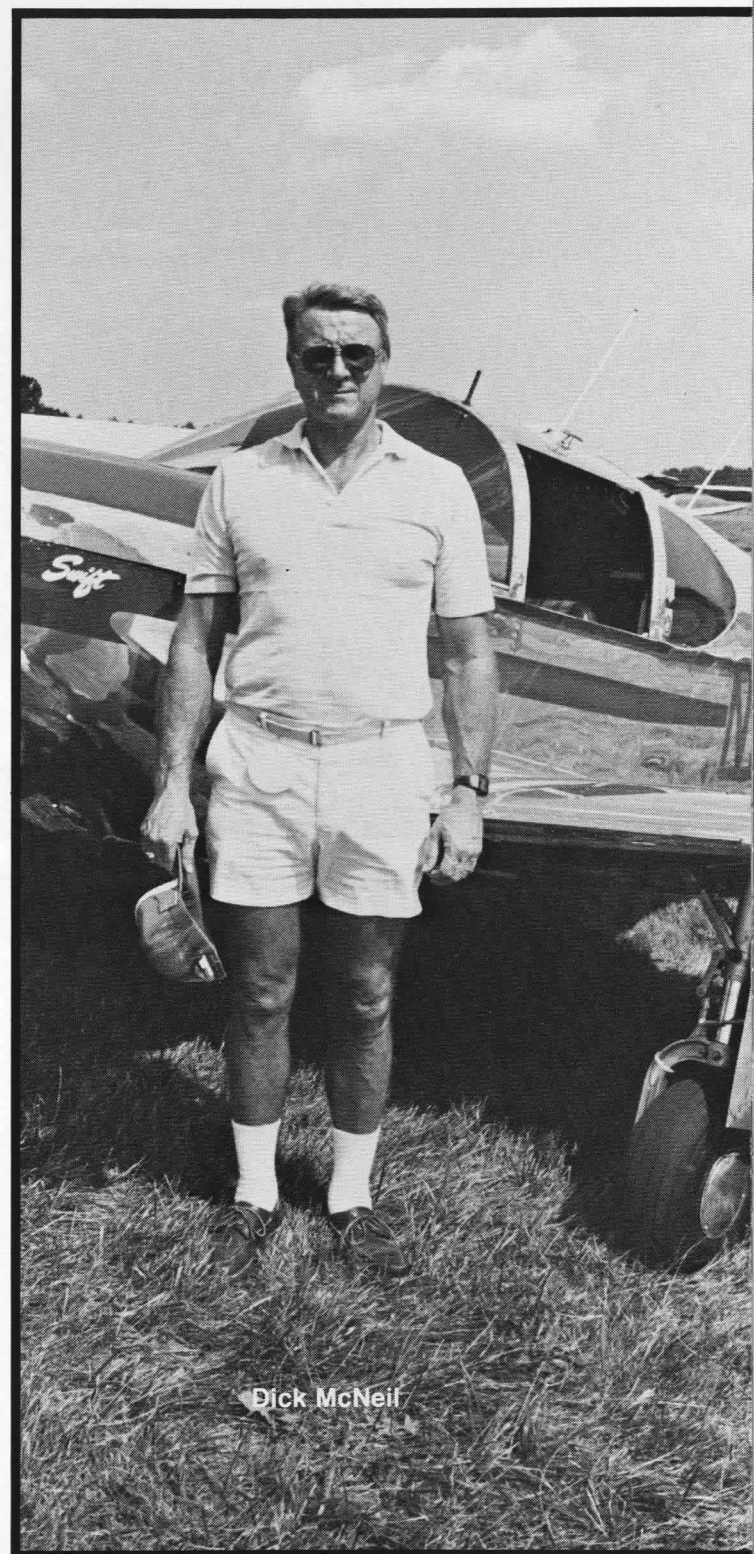
tory of his Swift and learned that, interestingly enough, it has spent most of its existence in North Carolina. Temco pushed it out the door in 1951 and it made its way through the distributor/dealer system to be sold to a Tar Heel pilot . . . who, in turn, sold it to one Herman Carpenter of Hickory, NC. Carpenter used the Swift in his business during 1952 and 1953, but apparently liked to fly it in bad weather more than his wife really cared for. After a couple of off-airport landings, she gave him a choice of getting rid of the bird or "splitting the blanket", as they used to say down South. He sold the Swift.

The next owner was someone in Hendersonville, NC, who proceeded to land 57B short of the runway. Later, the Swift went to Roger Willis in Indiana . . . then, ultimately, to Dick. He, then, is only the fifth owner, which is pretty unusual for a 32 year old airplane. There are around 2100 hours in 57B's logs and Dick has put 1200 of them there . . . for an average of 80 hours per year for the 15 he's owned the airplane. This is pretty typical of the active weekend/sport pilot. He and his glistening Swift are a common sight at fly-ins anywhere in the East and, as I've said, he usually takes home a trophy.

Having owned the airplane so long, it goes without saying he is pleased with it. Not one prone to gushing praise, Dick simply says, "I don't know of a thing I'd rather have than that airplane."

You'll never get a better recommendation for anything.

If any of you would like to get involved with the Swift lovers, write: The International Swift Association, Inc., P.O. Box 644, Athens, TN 37303. Initial membership is \$25.00, with renewal at \$15.00 per year thereafter. You do not have to own a Swift to be eligible to join — just have an interest in them. The Association printed a soft cover book early this year entitled "The World of the Swift". It contains a history of the Swift, including some really interesting pictures of the prototypes, factory production lines, etc. It also contains a complete roster of the 730 or so Association members and pictures of most of their airplanes. It's available for \$12.50 (each) and if you are accumulating an aviation library, it's a must. Swift info has never been easy to come by.



Dick McNeil





BARRACUDA!

One of the more sophisticated homebuilt designs to come along in the 70's was the Barracuda. Designed in 1967-68 by Geoff Siers, a senior aeronautical engineer for Boeing at the time, the Barracuda was conceived as a very fast, 2-place airplane with both excellent cross-country and aerobatic capability. Siers was an Englishman who had served in the RAF as a fighter pilot before bringing his family to the U.S. in 1964, eventually settling in the Seattle area. He wanted his airplane to be fighter-like in appearance and handling qualities, yet be docile enough for those less experienced than himself, which was quite an engineering challenge. Over a year and a half was spent on calculation and detail design alone in an effort to achieve his design/performance goals.

Work on the prototype began on December 22, 1968. At that time the Barracuda was to be a sleek but fairly straightforward all-wood airplane, powered by a 260 horsepower Lycoming. A Comanche landing gear would be used to cut down on building time. Geoff expected to complete and fly the airplane in about four years . . . at a cost of around \$3600! I know it's going to hurt, but I have to tell you he picked up his Lycoming O-540 in those days for (sob!) \$640.00.

Like most builders, however, Siers found his target date for completion to be overly optimistic. It would be 3 more years, on June 29, 1975, before the first Barracuda would take wing. Predictably, the design had become more complex, heavier and slower than as initially conceived. It happens to the best of designers.

Geoff still had a potent machine, however. It carried two large persons at a cruise speed of 200 mph, topped out at 218 and stalled at a modest 65 mph (flaps and gear down). The prototype weighed 1495 pounds empty and gross was set at 2200 pounds. Rate of climb was 2000 fpm. One of the major changes was in the landing gear. When he saw there would be a homebuilt market for the airplane, Geoff decided to design his own retractable

gear rather than have his builders scrounging around trying to find a Comanche gear. He came up with one constructed entirely out of standard size lengths of 4130 steel tubing and off-the-shelf coil springs. It was actuated by an electric-hydraulic power pack from a Piper Arrow.

The Barracuda made its grand entrance at Oshkosh in 1976, coming away the winner of the Outstanding New Design award. And just two years later, the first plans built version appeared at EAA's big show — built by Jackie Yoder of Midland, MI. That Barracuda would become one of the most traveled homebuilts around, appearing at fly-ins everywhere.

Then, last year Geoff Siers sold the design rights to the Barracuda to one of his builders, Californian Bill Bueth. Plans are available from Bueth Enterprises, P.O. Box 2401, Laguna Hills, CA 92653. Materials kits can be purchased from Aircraft Spruce and Specialty Co., P.O. Box 424, Fullerton, CA 92632. Phone 714/870-7551.

Red Hill's Barracuda

A number of these heavy hitters have been built, one of the more recent of which by Melvin "Red" Hill of Danville, IL. He saw the prototype when Geoff Siers brought it to Oshkosh in 1976 and just had to have one. He bought the plans and was at work on his airframe before the year was out. The Barracuda flew for the first time early this year, which means it took Red 7 years to build it — exactly the length of time it took Geoff to build the prototype.

Red is a retired carpenter, which, he says, didn't help at all in the building of his all-wood airplane. It's an entirely different, infinitely more exacting type of work than carpentry, he found. "It was a matter of patience and maintaining a high standard of craftsmanship." "When you lose patience with anything, you ruin projects," is Red's advice to prospective first-time builders.

He did all his own work, except for the welding. A friend welded his landing gear and engine mount. The plans were followed faithfully, with two exceptions. Red expected to operate off grass the majority of the time, so he opted for 6:00x6 main gear tires instead of the 5:00x5's used on the prototype. This made it necessary to increase the wing center section's depth by an inch and $\frac{3}{8}$. It was a heck of a lot of work, Red recalls, and he emphatically discourages anyone else doing it unless they plan to operate off grass almost exclusively.

The only other modification was the addition of a larger dorsal fin . . . for no other reason than the fact that in Red's eyes it looked better.

His Barracuda, N36FM, is powered by a 240 horsepower Continental O-470 and a 3-blade McCauley constant speed propeller. At 23/23 (about 65 percent), the airplane indicates 180 mph. At 75% it will hit 190. With its thicker center section, Red was able to get a little more fuel in his airplane than could the prototype — 48 gallons to Geoff Siers' 44. 36FM stalls at 62 mph clean and 58 down and dirty. The rate of climb is a good, solid 2000 fpm.

Red is really impressed with the handling characteristics of the airplane. It's light and very responsive, he says, but is quite stable. He particularly likes the ailerons, the most responsive he's ever flown and effective right down through the stall.

Red learned to fly in 1946 in an Aeronca Champ. Over the years, he has owned 4 airplanes, a Cessna 150, a 182 and a Champ he restored himself. The last one is the Barracuda, of course. Sadly, he says it will be his last. He has found that retirement and aircraft ownership are not economically compatible, so he will eventually sell it. If any of you are interested, contact: Melvin Hill, 102 Ash St., Danville, IL 68132. It's a beautiful airplane, with an IFR panel, plush upholstery and gobs of performance.







BEAUTIFUL

A welcomed . . . and long overdue . . . development in the world of old airplane restorations is the resurrection of the military liaison airplane. L-3s, L-4s, L-5s, etc., authentically restored down to the last stencil, are showing up in greater and greater numbers at fly-ins these days . . . and are even gaining grudging acceptance by the owners of the heavy iron. It's about time — after all, these aircraft were very much a part of the shooting wars of the not-so-distant past. I have a friend, Col. Johnson Hagood of Charleston, SC, who has the dubious distinction of having been shot down in Italy in World War II by a Me. 109 . . . in a Piper L-4! He and his pilot were out in **advance** of the U.S. lines spotting for the artillery when they were jumped by the German fighter. If that's not "in combat", I don't know what it would take to qualify.

Recognition of the liaison aircraft as an antique or warbird has been agonizingly slow in coming, very likely because of the lowly role the type once played in civil aviation. Many entered civilian life as cheap, worn out "war surplus" machines and, more times than not, quickly ended up in the weeds at some rundown little airport to rot or be robbed of all their useable parts. All too many ended up in the scrap heap.

Today, however, they have a new lease on life. Veterans like the Cessna L-19A Bird Dog featured here are being recycled to better than factory new condition and spend

their summer weekends raking in trophies like mad.

Paul Priselac of Coraopolis, PA, a Pittsburgh suburb, is responsible for this beautifully restored Bird Dog . . . a feat he and some friends accomplished in just 8 months! It was completely disassembled, stripped to bare metal and had every part and component that wasn't as per manual replaced or rebuilt . . . including a few non-standard repair jobs. The elevators and ailerons were re-skinned and all the following were replaced with new parts: cowlings, prop, landing gear, brakes, glass, instrument panel, control cables and, of course, all the hardware. The engine, a Continental O-470-11, was overhauled and made to look as good as the rest of the airplane.

One thing not retained was all the circa 1950's military electronic gear — about 130 lbs. of it. Modern lightweight nav/com equipment replaced the old stuff. The old antennas were reinstalled, however, to maintain a late '50s appearance, including the distinctive FM homing antennas that project from the leading edge of the horizontal stabilizer.

Finally, the Bird Dog was painted with Ditzler Durathane, an agricultural implement finish — which, somehow, seems appropriate for an ol' workhorse like an L-19. Paul researched the paint schemes used on Army Bird Dogs and chose one that was typical of the L-19A's used at Ft. Rucker, Alabama in the late 1950s — a period during which this

particular aircraft, Serial Number 51-4770, may well have served there. It's basically olive drab with panels of "high visibility" orange. The area around Ft. Rucker is heavily forested and the splashes of orange made a downed Bird Dog easier to spot.

Begun in the Spring of last year, the restoration was complete enough to permit the first flight in December of 1982. It was flown to Sun 'N Fun this past March and although still not completely detailed out, cosmetically, the Bird Dog won the workmanship award for warbirds. Fully reworked by the start of Oshkosh '83, it was named the "Best Military Classic" there.

Owners are always intrigued by the history of their airplanes, and Paul is no exception. He has been disappointed to discover that the Army does not keep records on its aircraft as the Air Force does, but he has been able to learn that after leaving the Cessna factory, his Bird Dog went to Ft. Sill, OK for a time, then was shipped to Korea where it was used as a spotter. It managed to survive that duty and was ultimately returned to the States where it spent much of the late 50's shuttling back and forth between Ft. Bliss, TX and Ft. Rucker. At Ft. Rucker it was used as a solo trainer. Sometime later, it was turned over to the Virginia National Guard and, finally, was surplused out to the C.A.P. A few years ago, the airplane was sold at auction for \$14,500. The owner spent some money and time on it, but eventually decided he had bitten off



BIRD DOG

more than he wanted to chew . . . so, sold the remains to Paul Priselac.

Paul is employed by U.S. Air as a Maintenance Instructor. An avionics specialist, he licenses the personnel who maintain auto flight systems, automatic pilots, air data computers, radios, nav aids, etc. "My basic function is to see that the persons licensing an airplane for Category 2 operations do it right. I have to know that he knows he's doing it right."

In addition, Paul has been a member of the Army Reserve for many years . . . and once was a "wrench turner on L-19s". That's where his love for the airplane comes from, he says, and was what allowed him to accomplish much of the restoration from memory rather than reference to manuals.

The Cessna Bird Dog was developed for the U.S. Army as a more modern, all-metal replacement for the aging Stinson L-5. The prototype flew in January of 1950 and production began later that year. Initially called the L-19A, the airplane later became the O-1A when the services changed their designation system. A number of variants evolved over the 12 years of continuous production the design enjoyed — O-1A through E. Cessna also built Bird Dogs for export to Canada, France, Chile and licensed Fuji Heavy Industries to build O-1's in Japan. The company also obtained a FAA Type Certificate for the design, calling it the Model 305.

The Bird Dog saw service in Korea and

Viet Nam, principally with the Army and the Marines. After they began taking a back seat to the helicopter, they were gradually phased into Army Reserve and National Guard units and, still later, into the C.A.P. Finally surplused to the civilian population, the airplane became popular as a tow plane for glider clubs, as a fish spotter and for forest fire patrol work. The forestry service of the state of North Carolina, for example, is a big user of the airplane.

Oddly enough, you can buy a "new" L-19 today. The Ector Aircraft Company of Odessa, TX manufactures Bird Dogs from the remaining new part stock. Two models are available, the Mountaineer, powered by a 213 horsepower Continental O-470-11 and a fixed prop, and the Super Mountaineer, powered by a 250 horsepower Lycoming O-540-Å-4B5 and a Hartzell constant speed propeller.

Paul says between 3500 and 4000 Bird Dogs of all variants were produced . . . but according to the latest FAA registration figures, only 260 remain in civilian use. That's ten more than last year, however, due to Ector's production and restorers like Paul Priselac.

Paul's airplane is on FAA's books as a Cessna 305A, N27PP, Serial Number 21655. He has it painted to represent L-19A, Serial Number 51-4770 of the late 1950's. He loves to fly the ol' bird and says that if you are on the ball, it can operate out of 150 feet of

reasonably level terrain. Cruise is between 115 and 130 — depending on how much fuel you want to run through it. At a nice, easy 2200 rpm, the Continental will burn around 9 gallons per hour. With 60 degrees of flap, the Bird Dog stalls at 50 mph and Paul describes a by-the-book landing as one in which you keep the spot on which you want to touch down right over the nose and hold 55 mph . . . right down to the flare. Then, the stick is hauled back to the stop . . . and on the second bounce, you lock up the brakes. That's all there is to it, he says.

At the MERFI Fly-In at Marion, OH in early September, Paul in his L-19 and a friend of his in an equally nice L-5 flew close formation in the fly-by pattern. It was a sort of flying history lesson, the Stinson representing World War II and the Bird Dog the Korean "police action". Paul had a crowd of people around the airplane every minute it was on the ground and a lot of them — a surprising number, he found — had either flown Bird Dogs in the service, been rescued by one, or had some connection with them. "I think I've talked to every Warrant Officer who ever flew one," Paul chuckles.

It's good to see . . . good that the liaison type is finally getting some TLC. They're not as glamorous as the 51's and Corsairs, but don't ever forget that they also served who put-putted along down in the midst of small arms fire to direct the big guns . . . and, on occasion, to rescue a hot rock fighter jock.



DON GREGORY'S **HEADWIND**

With all the hullabaloo over ultralights these days, a newcomer to sport aviation might understandably get the idea that lightweight, low powered, purely-for-fun airplanes were just invented a couple of years ago. Actually, the "flying motorcycle" has been with us at least as far back as Santos Dumont's Demoiselle and every decade since has had its "solution" for inexpensive flying.

The sixties, for example, saw the introduction of Don Stewart's little . . . and appropriately named . . . Headwind. A captain for USAir, Don has always been fascinated with low powered flight and over the past 20 years or so has designed and built a number of interesting little airplanes. (Remember his Foo Fighter?) His Headwind was a sort of latter day Aeronca C-2 and was intended to ride the crest of the VW conversion that was just really coming of age in the mid 1960s. The big bore VWs we have today hadn't come on the scene then, so Don had to develop a belt type reduction unit to get adequate thrust for the Headwind. He called the unit the Maximizer . . . and later adapted a beefed up version to fit the Ford Falcon engine initially installed in the Foo Fighter.

Still later, he scaled it down for use in model airplanes and ultralights.

Sad to say, the Headwind was never a rip-roaring sales success for Don and, in retrospect, it's not difficult to understand why. We could buy a gallon of 80 octane for 30 to 35 cents 20 years ago, and if cheap flying was what you wanted, you could pick up a half way decent Cub for just over a grand. A friend and I bought a really nice one in 1963 for \$1200. There just wasn't much of a need for an airplane like a Headwind in those days.

But what a difference a decade and a bunch of greedy sheiks can make, eh?

At two bucks a gallon for aviation go juice, all of a sudden something like a Headwind begins to make a whole lotta sense! At Merced this year we saw a brand new one and its owner/builder, Don Gregory, was being lauded by a horde of admirers as a downright sensible sort of fella.

Don Gregory grew up near Bloomington, Illinois and soloed a Taylorcraft when he was 17. He went on to earn his commercial ticket and a mechanic's license — back when it was still called an A&E. He came out to California in 1950 to go to school and jokes

that he "never made enough money to leave". He dropped out of flying and never slipped the surly bonds of earth again for 30 years.

But like Bill Coffee, whom you read about in the Summer issue, Don found those old urges stirring again in the late 70's. He had discovered the homebuilt movement by this time and when he came across the Headwind, he knew what he had to do.

The plans arrived in 1977 and Don began relearning all that old A&E stuff as he whittled away at the Headwind's airframe. The instructions were followed pretty faithfully, but naturally, a few custom touches were added here and there. He wanted a pitch trim system of some sort and remembering how it was done on the pre-World War II Taylorcrafts, incorporated a similar rig. It's a little "wing" mounted just under the horizontal stabilizer that can have its incidence changed from the cockpit. Works like a charm, he says.

Then, when Don began assembling his landing gear, which uses a stack of hard rubber pucks as shock absorbers, he found he couldn't find any of sufficient density. Ultimately, however, he came upon the perfect solution — plastic skateboard wheels! Not

only did they work to perfection, but they also helped jazz up the appearance of the airplane. Each wheel in the left and right gear's stack is a different color . . . and Don painted the tips of his prop in color bands to match! Really looks sharp.

An 1834cc VW powers Don Gregory's Headwind . . . an engine Don Stewart would have committed a felony for back in the 60's. He built it up himself, making his own intake and exhaust systems. A HAPI cam, a Posa Super Carb, Slick mag (it's single ignition) and a Corvair heavy duty oil cooler are some of the goodies used to make the Bug motor fit to fly. It twirls a 54" x 32" Great American prop, which Don thinks is a fine piece of work.

The early Headwinds used big fat Cub tires, but over the years they became scarce. When they did become readily available again, they were rather expensive. With the skateboard wheels absorbing the spine

sprainers, Don felt he could get by with a common ol' 6:00 x 6 tire. He found some Shinn wheels (and brakes) and the combination has, indeed, proven to be quite satisfactory.

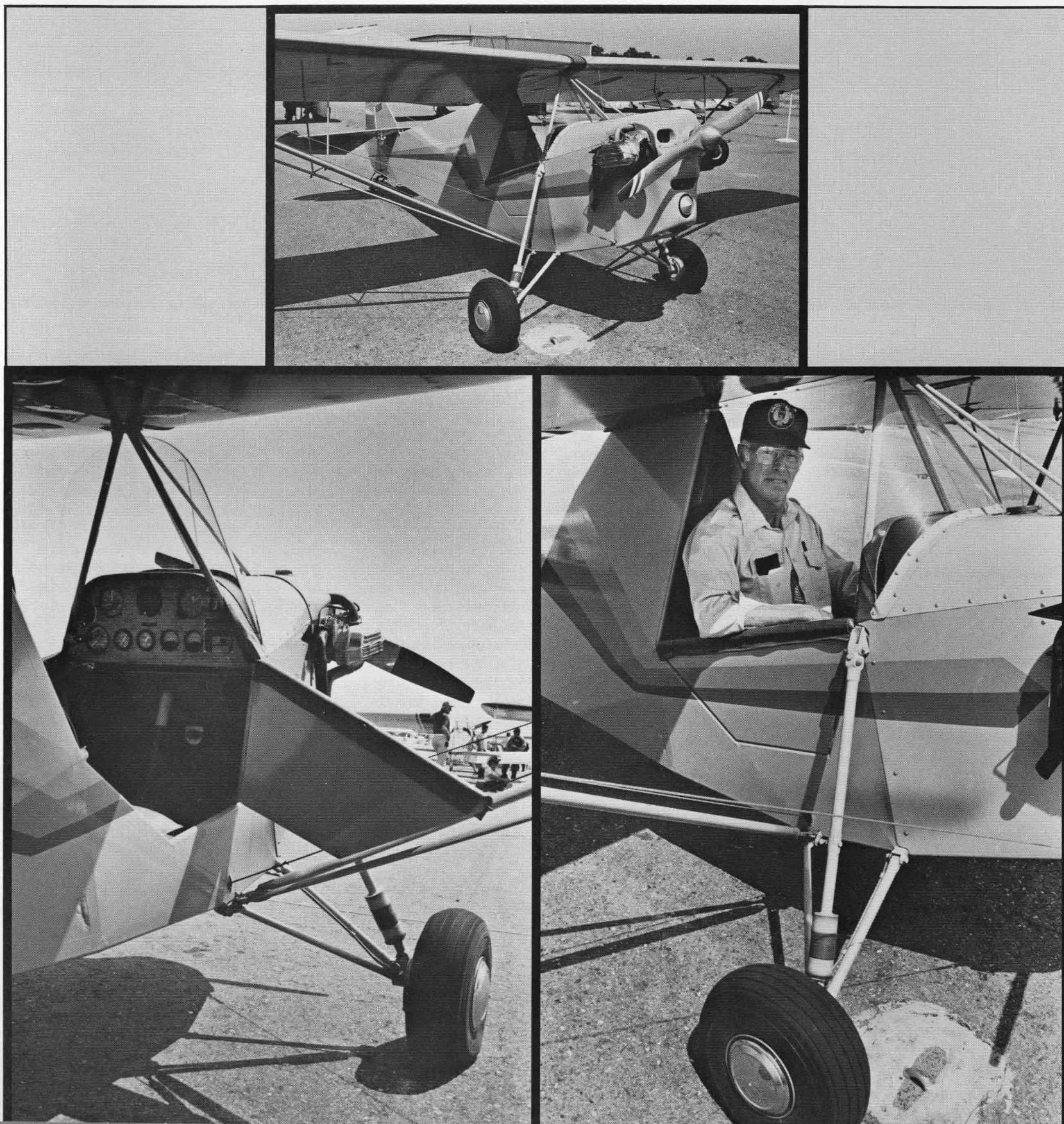
After the steel tube fuselage and wooden wing were finished, they were covered with Ceconite and given a nice warm California sunshine paint job, using automotive enamel for the color coats. It's a colorful, handsome little airplane that draws a crowd every time it lands somewhere.

The building process took 5 years and Don flew his Headwind for the first time in 1982. He bases it at the now famed Mojave Airport, home of all those wild 'n wunnerful things that come flying out of the Rutan and Quickie works. The Headwind is quite a contrast to those Twenty First Century starships, but it does the job it was built for just as well as any of them . . . it pleases its owner.

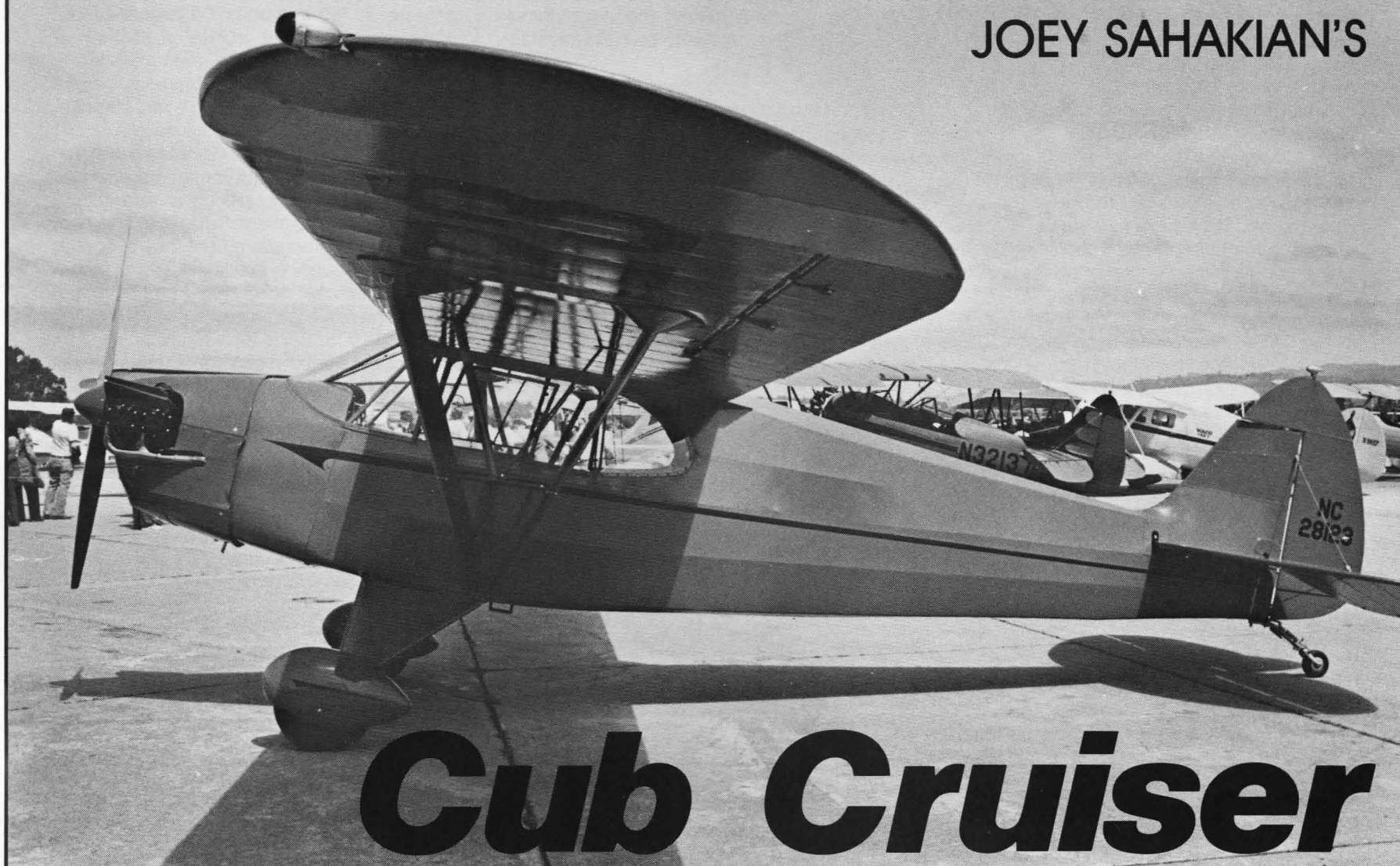
The pug nosed little dude came out of the shop weighing 502 pounds empty, and it grosses at 750. It carries 7.5 gallons of fuel in its nose tank and cruises at 85 mph at 3000 rpm, so Don gets to meet a lot of line boys when he hops . . . and hops . . . cross country to a fly-in. He doesn't care, though. Line boys (and girls) are nice people.

Don Gregory lives in Grenada Hills, CA and operates his own swimming pool service company — which is certainly an appropriate profession for Southern California! He manages to find some spare time, however, and is presently building a Taylor Mono-plane. That's a neat little homebuilt, but wouldn't it have given me some interesting possibilities for a title for a future article if he had bought a set of plans from Steve Wittman and become the first person I know of to build both a Headwind and a Tailwind??

Oh, well . . .



JOEY SAHAKIAN'S



I don't know if it's because they have year 'round sport flying weather out there . . . or, maybe, it's just that keeping things in the family is more of a tradition in California than other parts of the USA, but nowhere else do I find airplanes that have had so few owners. Take Joey Sahakian of Fresno, CA as a case in point. He owns the nearest thing to a brand new Piper J-5A Cub Cruiser you'll ever see again, because (1) he has restored it to factory new condition and (2) although it was built in 1940, Joey is only its third owner.

And he says he'll **never** sell it.

That was pretty much the attitude of the previous owner, the operator of the Sierra Skypark in Fresno. He purchased the J-5A from the original owner when it was only about a year old and held onto it for nearly 40 years. He had been promising Joey that eventually he would sell it to him and, finally, a couple of years ago, he decided to pack it in, buy a fishing boat and get away from aviation. Joey got his airplane, such as it was, and barely made it the few miles between Sierra Skypark and Chandler airport. The years and recent inactivity had pretty well done the little bird in, so about 2 months after buying it, Joey took it apart and moved it into the auto repair business he and his father operate.

Now, the Sahakians are a flying family. Joey does not recall a time when his parents did not own an airplane — everything from Cubs to Stearmans. His father, in fact, presently owns a Luscombe 8A and a Stinson 108-2, which is currently getting the same

superb restoration treatment the J-5A received a little over a year ago.

With this sort of situation, Joey was able to embark on a rather unusual restoration schedule. He and his father agreed that, once under way, he would work on the airplane **full time** until it was completed. Joey took over the company's spray booth — it had good lighting and ventilation — and went at it . . . 7 days a week for 9 months!

The restoration was routine for a tube and rag airplane — complete disassembly; sandblasting; hot linseed oil in all the tubing; rechromating; all new fasteners of every type; new control cables, hoses, lines, etc.; major overhaul of the engine and accessories; new leading and trailing edges for the wings; new window frames and new glass all around. Anything not replaced was redone to look like new. The cowlings, for instance, had the usual bumps and dings an old airplane usually has, but Joey was able to run the various flat wrap pieces through sheet metal rollers and save them.

Finally, the airframe was covered with Ray Stits' finest and painted in authentic Cruiser Orange with black trim. This was Joey's first cover job and he enjoyed it very much — even the rib stitching! About the only thing in the airplane he did not do himself was sewing up the upholstery. He did the headliner, but left the seats to specialists in that particular skill.

During the restoration, Joey searched far and wide for a set of original aluminum wheel pants — and actually had a set sent to him

at one point. They were in such terrible condition, however, he had to return them. Ultimately he settled on a set of Wag-Aero fiberglass pants, which are copies of the originals.

After it was completed, the Cruiser was weighed and tipped the scales at just 750 pounds empty. That's ten pounds under the old Piper specs for the airplane . . . and **very** unusual for an airplane as nice as this one.

Finished just in time for Watsonville '82, Joey has been picking up trophies like there's going to be a shortage or something. He already had 11 by the start of Watsonville '83 and had several more when that weekend was over and Merced had ended the following weekend. All richly deserved, as you can tell by the photos.

One thing for certain, Joey knows how to present his airplane for the judges. Every bug, fleck of dust and drop of oil was wiped off within minutes after the airplane had been tied down . . . then the tires were sprayed with ArmorAll (or something like it). To use an old hot rod term, the Cruiser was really "sanitary" when he finished . . . and the judges were obviously impressed.

The airplane had 60 hours since restoration when it landed at Watsonville this year, which represented a lot of take-offs and landings. Joey says he does most of his flying in the evening after work . . . 20 minute or half hour jaunts around the local area just for the pure pleasure of flying.

The Cub Cruiser was certified by the old CAA back in March of 1940 and around 1400

were built before World War II ended production of civilian airplanes early in 1942. Several models were produced — the J-5A powered by a Continental A-75, the J-5A-80 with the Continental A-80, the J-5B with the geared Lycoming GO-145-C2 (75 hp), and the J-5C with the 100 hp Lycoming O-235C. The vast majority of those built were J-5A's, although had the war not intervened, the J-5C undoubtedly would have become the most popular model. In 1942, the J-5C was pressed into military service as an ambulance plane for the Navy. Designated the HE-1 (later, the AE-1), the military version sported a pressure cowl and a flip-up turtle deck for access to a stretcher. After the war, the J-5C/HE-1 evolved into the PA-12 Super Cruiser . . . and, finally, into the 4-place PA-14 Family Cruiser.

The J-5A was originally conceived as Piper's answer to the small airport operator's prayer. It could be used as a 2-place trainer the same as a Cub, but with a 37 inch wide rear seat, one could also squeeze two average 1940 sized souls back there for buck and a half (each) joy rides. It was best suited for carrying two small children on their first airplane rides — and a lot were — because on a hot day, 75 horsepower was minimal for hauling 3 adults. At any rate, the airplane was a money maker and was very popular in its heyday.

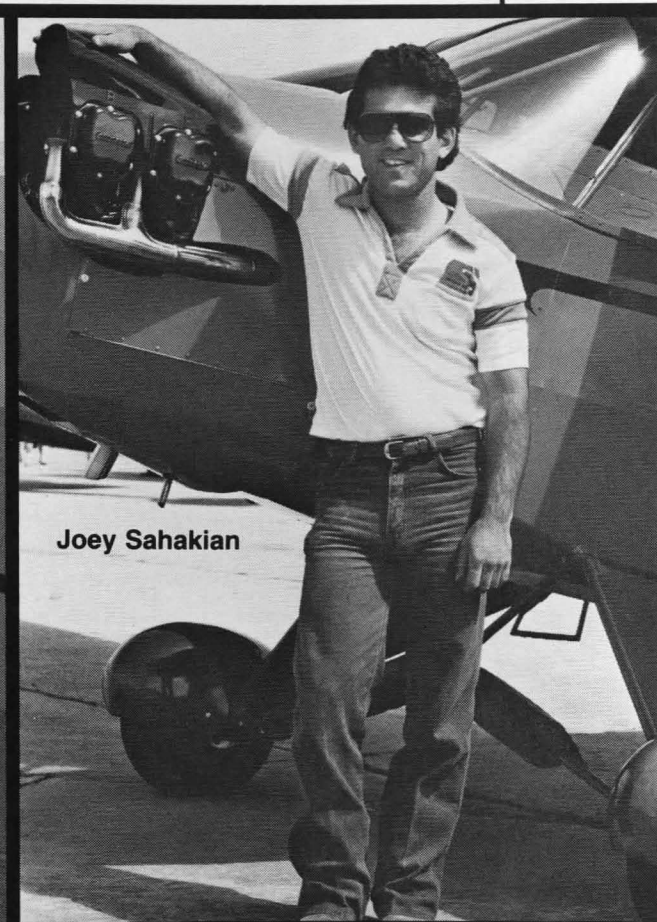
Today, just short of 400 Cub Cruisers remain on FAA's books, almost all of which are J-5A's. Joey's NC28123 (Serial No. 5-109) is a J-5A, but has been converted to a Continental C-85. This was a common practice in the late 40's when Continental was crank-

ing out the 85's by the thousands for Swifts, Cessna 120's and 140's, Aeronca Chiefs, Culver V's, Ercoupes, etc., and pilots were busting them up regularly enough that plenty of engines were available for retrofit in J-5A's. That way, you got an electric starter.

The J-5A sold for \$1798.00 in 1940 and Piper had its own finance plan, which allowed one to fly away for just \$598.00 down. Remember, though, that was a lot of cash for those days — over twenty grand in today's money. You did get free flying lessons with the purchase of the airplane, though.

The working days are over for Joey's Cruiser. It's destined to live the life of a pampered showplane and bask in the admiration of all who see it.

We should be so lucky, eh?



Joey Sahakian



A NEW WING



FOR THE T-18

Lyle Trusty of Lancaster is a Flight Test Engineer for Fairchild Republic and currently serves as Project Engineer on the A-10 program at Edwards AFB. He is also an avid sport pilot and homebuilder. He completed a 150 hp T-18 in 1974 while living on the east coast and has flown it all over the U.S., Canada and Mexico. A few years ago, he and his wife flew it to Alaska and due largely to the requirement to carry 35 pounds of survival gear, had it forcefully brought to their attention that their faithful little airplane had some severe limitations for trips of that nature. In order to carry sufficient fuel and the baggage they had with them, they had to stuff the items of survival gear into the backs of their seat cushions, under the seats — all over the cockpit, in fact. Lyle resolved then and there that when he returned home he was going to do something to solve the load carrying/CG problem he had. He already had plans to upgrade to a 180 hp Lycoming, so it would be the perfect opportunity to also work on some things that installation would cause.

At the suggestion of some of my T-18 loving friends, I looked up Lyle at Watsonville this spring and got the full story on the modifications he has made since his Alaskan adventure. I think you'll find them technically interesting . . . and pretty amazing in their results.

Right away, I learned that Lyle had actually designed and built an entirely new wing for his T-18 — with a different airfoil, different

planform and with aux tanks built in. I turned on my tape recorder and asked him to run through the whole project, from concept to flight test results . . . and this is what he had to say:

"The T-18 wing was not designed for 180 horsepower. I wanted one that was . . . but I also wanted one that would fly slower and faster than the old one. I also wanted the wing to carry fuel (in addition to the standard fuselage tank) and I wanted the airplane to be aerobatic at the higher gross weight I would have after installing the bigger engine. I wanted to increase my fuselage baggage weight allowance and I wanted to increase my radius of action by increasing the amount of fuel I had. (Lyle formerly had an aux tank in the T-18's baggage compartment area.)

"Performance-wise, I hoped to lose 2 or 3 miles per hour in the stall and pick up 3 to 6 in cruise.

"So I built the wing . . . but before I put it on I went out and flew performance baseline tests at 3, 6 and 9 thousand feet, with max power at all those points to determine rpm and manifold pressure, airspeed, stall speeds clean and dirty — and all the other characteristics you normally seek out in baseline testing.

"I then installed the new wing, but did not alter the airspeed system, the prop or anything else. I reflew all the tests . . . and was really startled by the results. I found I had:

- Lost 6 mph at the stall.
- Gained 10 to 12 mph in cruise.

- Picked up 130 rpm.

"Now, if you use the standard formula for determining horsepower, which is the square of the cube root of the difference in rpm, that extra 130 rpm turns out to be the equivalent of 25 horsepower. What I had was a decrease in drag that was the equivalent of gaining 25 horsepower.

"And I gained a lot more than simply increased performance. I now had 13.7 gallons of useable fuel, instead of the 10.2 I had in the old baggage compartment aux tank. The fuel tank's moment arm is about one inch aft of the forward CG limit, so that if you have an aft CG condition and put fuel in the aux tanks, it moves the CG forward. If you have a forward CG and add fuel, you move the CG aft. So, no matter what you do with the aux fuel, you are doing the right thing.

"That, in turn, opened up the baggage compartment. Instead of a 35 pound allowance, we now had 195 pounds — still within the airplane's CG limits. I'm worried about the tailwheel now — whether it can take that kind of additional weight. I probably won't load more than 100 pounds in the baggage compartment because of that concern.

"With the additional fuel and increased efficiency, my range was increased 100 miles, from 550 to 650 miles with a 45 minute reserve. I'm now cruising at 203 mph true, whereas I used to cruise at 192. I'm also now aerobatic at 1500 pounds, which is not important to me — but it's there. With a full main tank, no baggage and just me in it, I'm at

1468 pounds. Its performance at that weight is astounding.

"The wing has done some other things, things I didn't expect. It's much more stable in roll — it's a much better IFR platform as a result. The control harmony between pitch and roll is not matched up in a Thorp. Pitch is a little heavier than roll. With my new wing, they match up well, much more harmonized and its much more stable. You can take your hands off the stick for a much longer period of time than you can with the old wing. Some people might not find it as delightful to fly, but after a few hours you get used to the heavier roll feel and soon forget how it once was. You just know that it has greater stability. These changes came from two sources, the change in the camber of the wing and the reflex at the trailing edge, plus the higher cruise speed."

O.K., I asked, what did you do to achieve all this?

"Well, first you need to know that the Thorp wing is a 63,412, the last 3 numbers of which are the keys to the airfoil. The '12' means 12% thick, and the '4' is for the .4 design coefficient of lift, which is what the airplane and its gross weight required at 160 mph. It had one degree of incidence.

"Now, when you put 180 horsepower in the airplane and go 195, things change. You only need a coefficient of lift of 1.7 and you don't need that one degree of incidence in there. It all adds up to the fact that you are

pushing the wing through the air at a half a degree of negative incidence . . . and that's a lot of induced drag.

"In addition, the tail is up another degree than it has to be — which means maybe $3\frac{1}{2}$ inches on the end of a 214 inch moment arm. So, you're $2\frac{1}{2}$ degrees off the optimum cruise angle for the fuselage and $1\frac{1}{2}$ off on the wing.

"My wing has a 63,212 airfoil that's modified forward of the spar with a 50% increase in the leading edge radius. I also built in a strake by increasing the chord of the inboard rib by 5 inches. The aux tanks went into this triangular area. I also **inverted** the inboard rib. If you look at a 727 or a Lockheed 1011, you'll see they do the same thing. The reason is that this points the inboard portion of the wing up into the induced downflow around the cowl, which reduces induced drag. If you look at oil streaks on a cowling, you'll see that they all come down where the air comes around the side of the cowl. This means that on a stock T-18, the wing root is sitting there in a negative angle of attack in that downflow.

"In addition, the Reynolds Number at the root is increased significantly by the 5 inches of additional chord — so you get more work out of the inboard section. You also change the stall characteristics tremendously. Whereas the old wing stalls at 12, 13 or 14 degrees angle of attack, this one is stalling up in the 18 to 20 degree range.

"The maximum coefficient of lift with flaps down is about 2 and with flaps up, it is about

1.6. That's a change of about .4 from the old wing. The new one doesn't have that secondary break characteristic, either. When you come down the back side of a loop with the old airfoil and pull it until you get the onset of an accelerated stall, then back off . . . if you just **touch** it again, you'll get a secondary stall. This one doesn't do that.

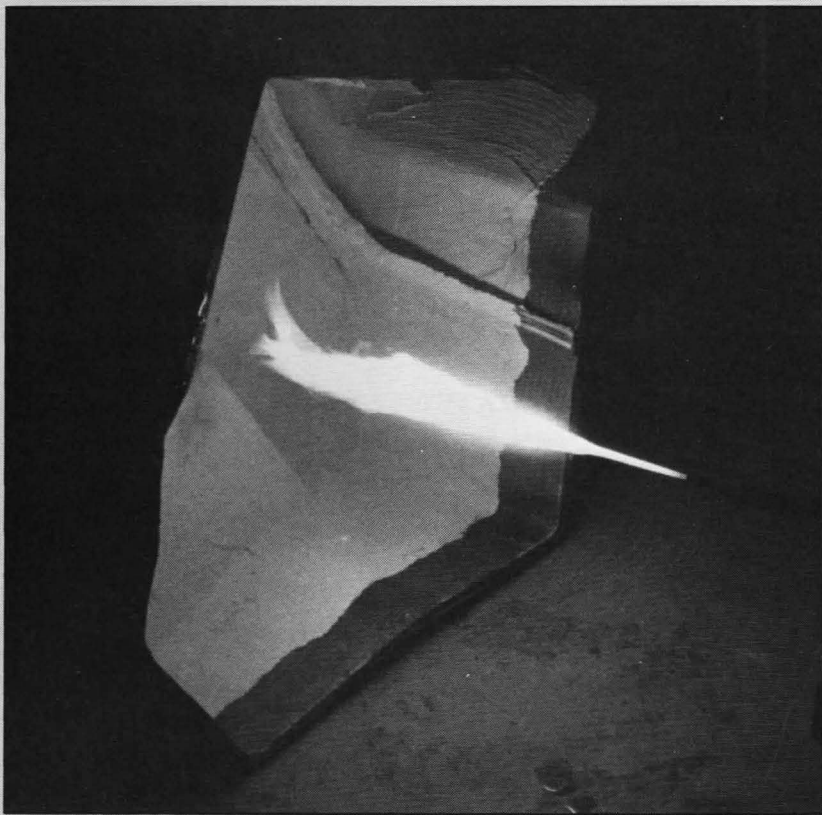
"It has a nice stall buffet, but it doesn't get back on the tail. It doesn't tuck or bunt . . . it's just a totally new feeling to fly the airplane.

"I'm tickled with the results of the wing change, of my effort, and if somebody else wants to do the same thing, I'll help any way I can. However, I don't have the time or really, the desire, to publish plans and sell them. I haven't talked to John Thorp about my wing yet, but I probably will.

"One thing I want to acknowledge is the work of Lu Sunderland, Kenny Knowles and Bob Johnson. They have designed and built different wings for the T-18 and I borrowed heavily from them. I still have some clean-up items I want to do and I'm having Pete Beck back in Virginia design me a new propeller. He has created a program for use on his Apple II computer that promises fantastic prop performance. If it proves out, we'll build a new prop; otherwise, I'll just repitch my 68"x84" metal prop to 85 or 86 inches. Gotta do something about that 130 rpm!"

Lyle Trusty's address is 7500 W. Ave. A, Lancaster, CA 93534. ☺

NEW "LIQUID FIREWALL" FROM QUICKIE AIRCRAFT.



"LIQUID FIREWALL" given the ultimate test from an acetylene torch.

Quickie Aircraft Corp. announces a new paint-on ceramic firewall material for use on all homebuilt aircraft.

"Liquid Firewall" is a new space age material developed to protect jet aircraft wheel wells from the extreme heat caused by brakes. "Liquid Firewall" is a two-part system that can be sprayed or brushed on. It has a consistency similar to feather-fill, it cures hard, is non-porous and requires no protective metal covering.

Composite aircraft, as a rule, have a forward bulkhead protected from heat and fire by using asbestos of Fiberfrax covered by a thin sheet of aluminum. Quickie Aircraft's new "Liquid Firewall" not only saves hours of fitting time, it also offers a savings of at least 2 pounds. And it will not soak up engine oil like Fiberfrax.

"Liquid Firewall" is available in a 1 quart kit for \$95.00 (CA residents add 6% sales tax). There's enough material in a 1 quart kit to cover a typical firewall and exhaust system of a 2-place homebuilt aircraft. It can be purchased directly from:

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THE Q-200 IS HERE.



You've heard it was coming, now here it is. The Q-200. Based on the famous Q2, it has more power, better flight characteristics, and all the traditional Quickie Aircraft virtues of ease of construction, superb behavior, efficiency and great looks.

What's in a name? First, the Q-200 is powered by a Continental O-200 engine. Second, this rocket will blow right on past 200 miles per hour. The Q-200 is the fastest fixed-gear homebuilt on the market.

The Continental O-200 is certified and delivers a solid 100 horsepower. The Q-200 has a higher gross weight and faster rate of climb than the Q2, and blows the performance envelope out in all directions. We're talking a cruise of 207 miles per hour and top speed of 220.

We're also introducing a brand-new canard airfoil on the Q-200. NASA designation LS (1) - 0417MOD. It expands the CG range. Lowers stall speed at maximum gross weight. Reduces rudder sensitivity. Inhibits spin tendencies. Gives shorter take-off and landing rolls. Significantly improves behavior and eliminates trim changes in rain.

An integral part of our philosophy, from the beginning, has been quick, easy construction. This is a homebuilt you really can build at home. No welding. No machining. The fuselage, cowling and canopy are pre-formed. Our kit is complete, not just plans, promises and dreams.

We even make the tough part easy. The complete Q-200 kit is just \$9850.00. You supply the engine.

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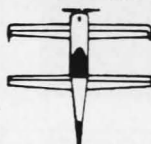
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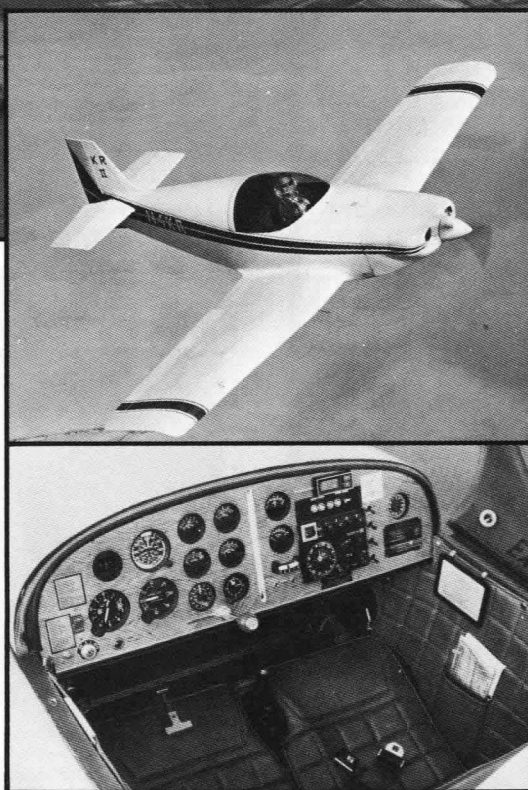
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Range	1600 miles
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Engine	VW 2100
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Seats	2 across
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Rand/Robinson Engineering

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KR1

KR1-B MOTORGLIDER

KR2

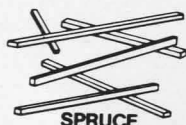
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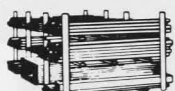
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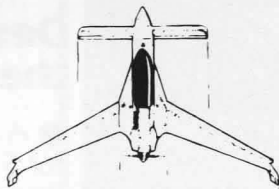
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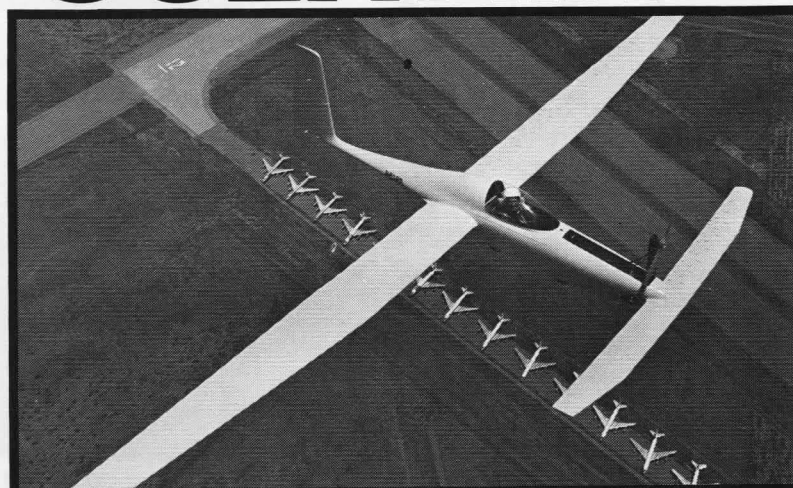
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28 FALL 1983

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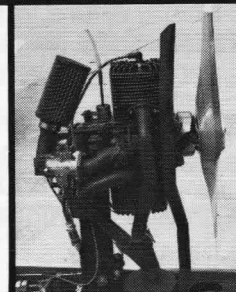
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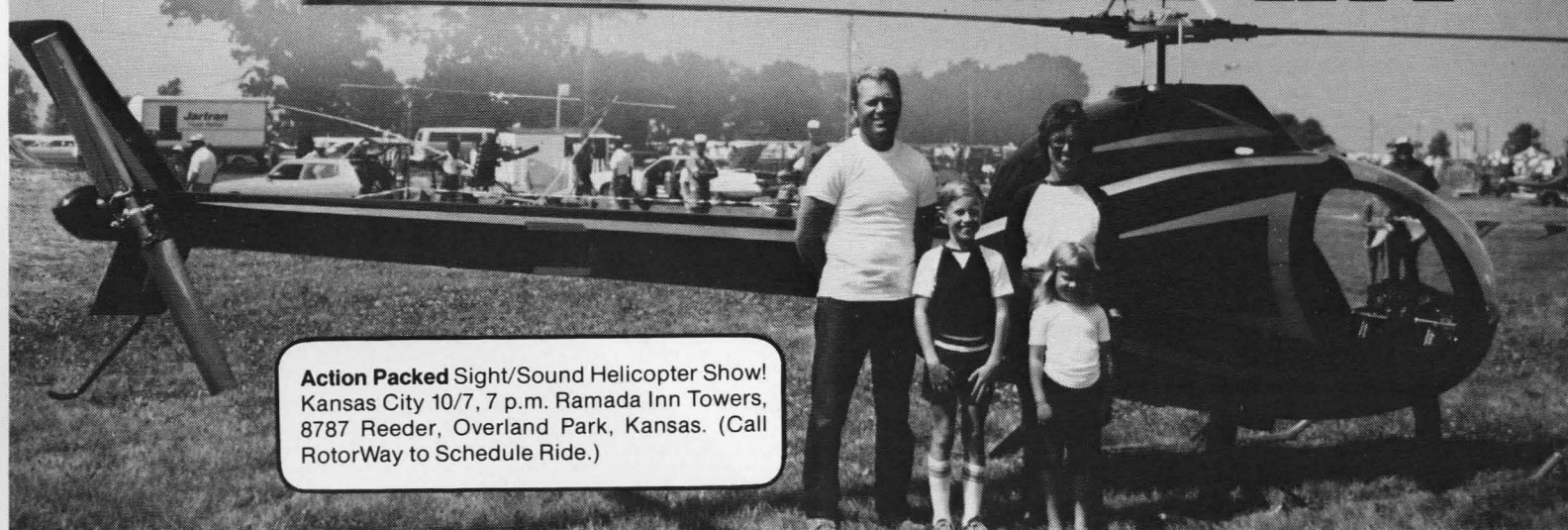


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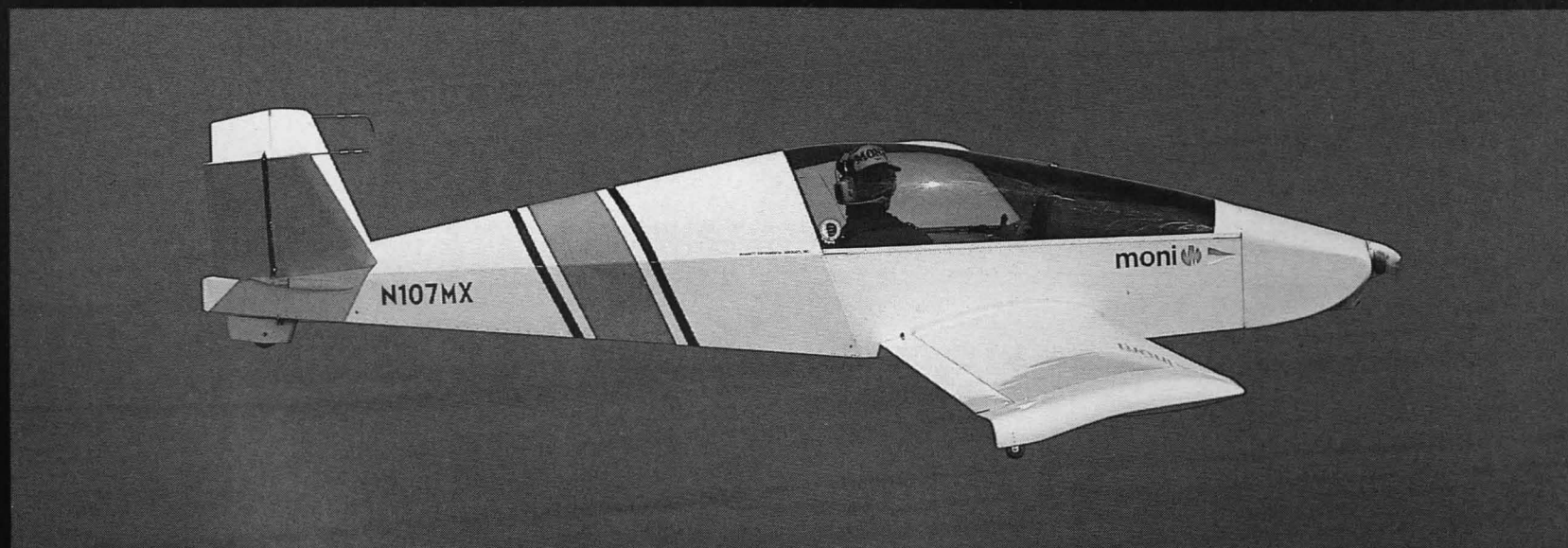
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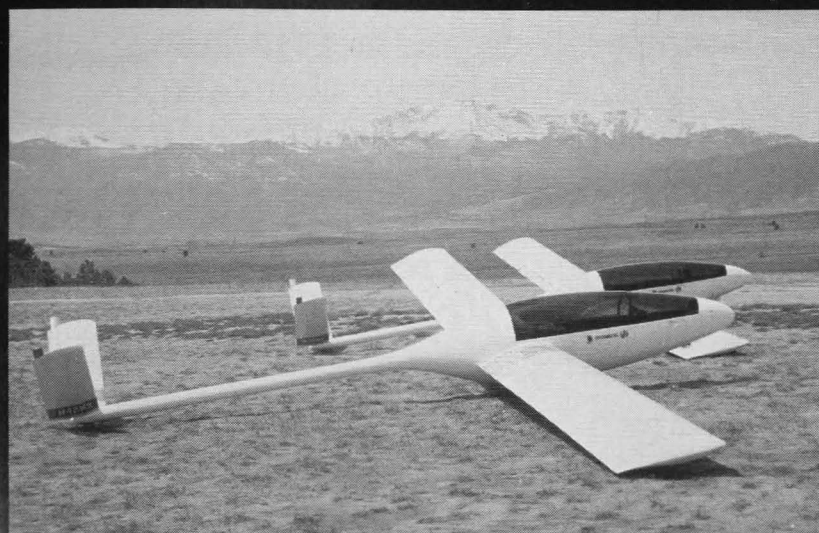
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